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ABSTRACT

This document reviews and summarizes fifteen major studies of compensatory education, and in particular Title I of the Elementary and Secondary Education Act. It provides students, researchers, evaluators, and policymakers with a usable guide to the evolution of approaches associated with this large scale educational program. These studies represent information sources concerning both the process and the effectiveness of Title I program management and project operation since the passage of the Act in 1965. The first part of the document sets the stage for Title I evaluation. It explains categorical vs. general aid, accountability vs. program development, and conflicting reports of Title I effectiveness. The second part provided a general discussion of 15 major evaluations of Title I. The third part presents the evaluation summaries.
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SUMMARIES OF MAJOR TITLE I EVALUATIONS 1966-1976

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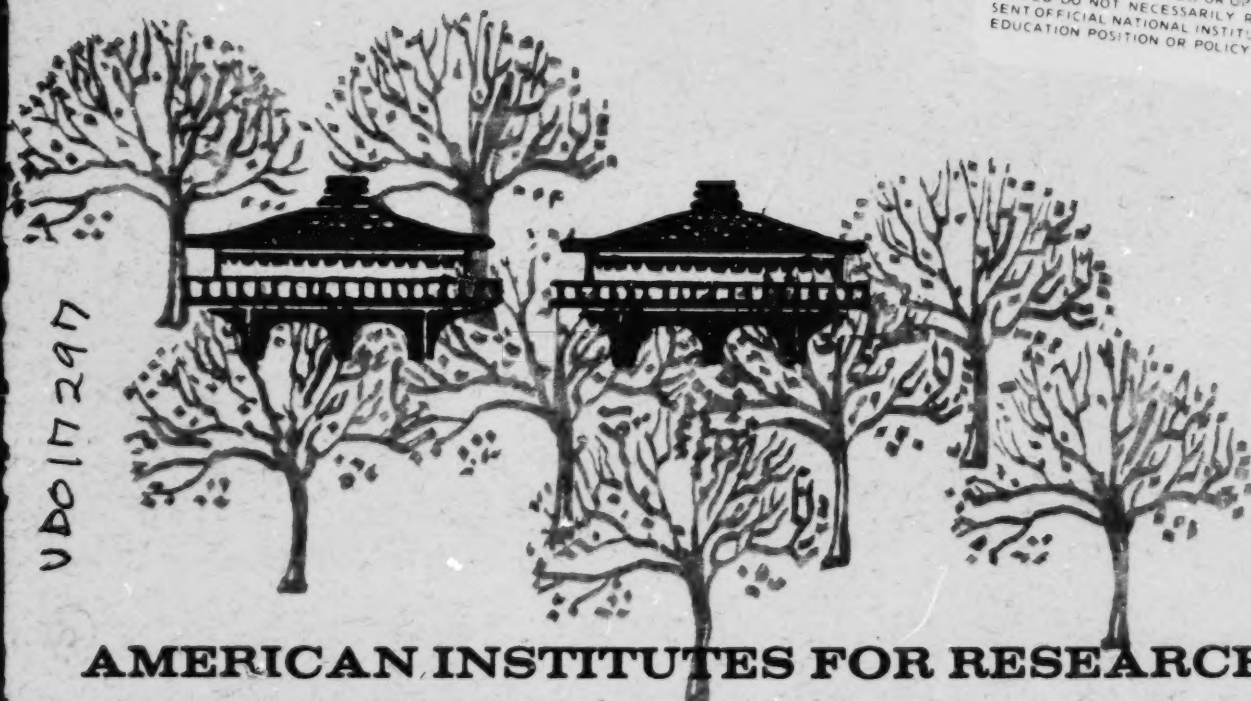
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1966-1976

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July 1977

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SUMMARIES OF MAJOR TITLE I EVALUATIONS, 1966-1976

Preface

The purpose of this review and summarization of fifteen major studies of compensatory education, and in particular of Title I, is to provide students, researchers, evaluators, and policymakers with a usable guide to the evolution of evaluation approaches associated with this large-scale educational program. These studies represent information sources concerning both the process and the effectiveness of Title I program management and project operation since the passage of the Elementary and Secondary Education Act in 1965.

Preparation of the summaries proved to be a learning experience; the interim, final, and other technical reports that were associated with each evaluation and that were obtainable had to be carefully read and synthesized. When they were available, copies of the relevant Requests for Proposals and the proposals themselves were reviewed and compared to the work actually performed. Since many details related to the conduct of an evaluation are apt to be omitted from final reports, we have, during the present contract, been in contact with many of the authors of these studies and with agency staff members who were involved with them. We therefore express our thanks to the following persons for their help:

Nabeel Al-Salam
Harold Asher
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Jane David
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We also extend our appreciation to those AIR staff members who assisted in preparing the Summaries: Jay Egan, Joan Hansen, and Perry Samuels.

Throughout this report we have drawn heavily upon Milbrey McLaughlin's unique and highly insightful book Evaluation and Reform: The Elementary and Secondary Education Act of 1965, Title I (Ballinger, 1975). To our knowledge, this is the only in-depth study of the processes and pressures associated with educational program evaluation at the federal level. It has proved to be a valuable resource.

While we have relied upon others for assistance, it is important to point out that time and budget constraints prevented us from calling upon these persons for critical review of our efforts. Thus, we take full responsibility for the content and format of the summaries.

Robert J. Rossi

Donald H. McLaughlin

Emily A. Campbell

Bruce E. Everett

TABLE OF CONTENTS

	<u>Page</u>
Preface	i
List of Tables and Figures	v
 <u>I. Setting the Stage for Title I Evaluation</u>	 1
Categorical vs. General Aid	1
Accountability vs. Program Development	2
Conflicting Reports of Title I Effectiveness	3
 <u>II. General Discussion of 15 Major Evaluations of Title I</u>	 5
1966-1971: What is Compensatory Education, and Does It Work? .	5
TEMPO (4/67-9/68)	5
1967-68 Survey (1/68-4/70)	12
1968-69 Survey (Glass) (4/69-8/70)	13
"It Works" (Hawkrige) (3/68-7/71)	14
CPIR Surveys (NCES) (1968-1976)	15
Washington Report Project (3/69-12/69)	16
Exploratory Report (McLaughlin) (7/70-12/71)	17
Literature Review (Gordon) (7/70-6/71)	18
5-Year Synthesis (Wargo) (6/71-1/72)	19
1972-1977: How Does Compensatory Education Work and How can It Be Improved?	 20
Compensatory Reading Study (7/71-6/76)	20
Planar Reports (6/72-10/73)	25
State Report Review (Gamel) (6/74-10/75)	25
State Report Review (Thomas) (7/74-3/76)	27
GAO Report (1975) (approximately 1/74-12/75)	28
PIPs Evaluation (7/74-4/77)	28
 <u>III. Evaluation Summaries</u>	 31
The TEMPO Study	33
The National Survey of Title I for the 1967-68 School Year . .	39
The National Survey of Title I for the 1968-69 School Year (the "Glass Report")	 47
The "It Works" Series	57
Consolidated Program Information Report (CPIR): 1970, 1972, and 1973	 65
The Washington Research Project Report	71
The Effects of Title I, ESEA: An Exploratory Study	77
Utilizing Available Information from Compensatory Education Evaluation, Research, and Surveys (Gordon & Koutrelakos)	 87

Table of Contents, continued

	<u>Page</u>
 <u>III. Evaluation Summaries (continued)</u>	
ESEA Title I: A Reanalysis and Synthesis of Evaluation Data from Fiscal Year 1965 Through 1970 (Wargo et al.)	95
The Compensatory Reading Study	105
The Planar Reports	117
 State ESEA Title I Reports: Review and Analysis of Past Reports, and Development of a Model Reporting System and Format (Gamel et al.)	125
Patterns in ESEA Title I Reading Achievement (Thomas and Pelavin)	137
The GAO Report	145
Evaluation of the Field Test of Project Information Packages (PIPs)	153

LIST OF TABLES AND FIGURES

	<u>Tables</u>	<u>Page</u>
Table 1. Types of Information Provided by Major Title I Evaluations Carried Out During the Period 1966-1971		9
Table 2. Principal Information Sources Utilized by Major Title I Evaluations Carried Out During the Period 1966-1971		10
Table 3. Sample Sizes (by units of analysis) of Major Title I Evaluations Carried Out During the Period 1966-1971		11
Table 4. Types of Information provided by Major Title I Evaluations Carried Out During the Period 1972-1977		22
Table 5. Principal Information Sources Utilized by Major Title I Evaluations Carried Out During the Period 1972-1977		23
Table 6. Sample Sizes (by units of analysis) of Major Title I Evaluations Carried Out During the Period 1972-1977		24
Table 7. Format of Evaluation Summaries		32
Table 8. Most Convincing of the Successful Programs Identified in the Study		62
Table 9. Percentage Expenditures by Category and Year for the Title I Low Income Program		68
Table 10. Parent Participation in ESEA Title I Program Activities . . .		69
Table 11. Average Monthly Reading Gains, A Multiple of Expected Gains, Based on Tables 37, 38, 39, and 40 of Gamel et al. (1975)		134
Table 12. Average Monthly Gains in the Initial Sample, by Grade and Year		142

Figures

Figure 1. Schedule of major Title I evaluations	6
Figure 2. Agency responsibility for major Title I evaluations	7
Figure 3. Context of major Title I evaluations carried out during the period 1966-1971	8
Figure 4. Context of major Title I evaluations carried out during the period 1972-1977	21
Figure 5. Number of studies identified which had found statistically significant relationships between independent and dependent variables	92

I. Setting the Stage for Title I Evaluation

President Lyndon Johnson's War on Poverty marched headlong into the schools with the passage in 1965 of the Elementary and Secondary Education Act (ESEA). Title I of this Act, which authorized more than \$1 billion per year to be spent on meeting the needs of educationally disadvantaged children, was regarded as a major step toward alleviating poverty and poverty-related problems. In order to preserve this direction and to help ensure a successful result, Congress attached a mandatory reporting requirement to Title I. Although the nature of this requirement has changed over the years, the fact that it was and is stipulated in the law itself is evidence of the high interest in and regard for evaluation during this period. Whether for program improvement or for more effective program management, information from evaluation studies has never been in greater demand.

Categorical vs. General Aid

From the outset, however, evaluation of ESEA Title I projects has not been easy to implement. Whether data are to be collected directly from project managers and participants or via the "three-tiered" approach suggested originally in the legislation, it is necessary for federal, state, and local education agencies to work together or, at least, to work toward compatible goals. In the past, this has not always been the case. Federal agencies have repeatedly asked for evidence that compensatory education "works" or can be improved while, for the most part, state and local agencies have only been willing or able to provide data that describe what compensatory education consists of and how it is being conducted. While there have been cases where the aims of these agencies have been fairly compatible--e.g., the development of the "It Works" series and the Consolidated Program Information Report (CPIR) studies--there have also been cases where the problem of aims not being shared has severely limited the quality of evaluation results--e.g., the 1968 and 1969 surveys. A major factor determining the compatibility of agency aims and thus the level of federal, state, and local agency cooperation in Title I evaluation efforts has been the degree of agreement among these agencies as to the purpose of Title I funds. From the federal perspective, in 1965 and today, Title I funds are targeted categorically to meet "the special educational needs of disadvantaged children." Thus, evaluation is regarded as a

tool that can be used (1) to assess how well these needs are being met and (2) to plan new strategies for meeting the needs. From the perspective of many state and local education agencies, however, the primary function of Title I is to provide funds for use in relieving budget cutbacks due to decreased enrollments and escalating costs. In describing this source of misunderstanding, Milbrey McLaughlin (1975) wrote:

Many educators wanted general aid, not categorical aid targeted for the "special educational needs of disadvantaged children." These schoolmen, as well as lawmakers such as Representative Carl Perkins, a long-time advocate of federal assistance to the schools, saw the "reform" of Title I simply in the fact of its passage, and in the successful resolution of the interest-group conflicts that historically had blocked federal aid to the schools. In this view, evaluation of special programs for the disadvantaged was not to the point of Title I. (p. 8)

From her interviews with principals in the Title I evaluation arena, Milbrey McLaughlin has provided valuable insights into the problems underlying the apparent ineffectiveness of evaluations of Title I during the period from 1965 to 1971. Drawing mainly on her work, we briefly discuss two of the major issues: (1) accountability vs. program development as the purpose for evaluation, and (2) the conflict in reports of program effectiveness.

Accountability vs. Program Development

Any misunderstanding concerning the purpose of Title I can only be exacerbated by disagreement over whether accountability as opposed to program development is the primary goal of an evaluation. While state and, especially, local education agencies might be willing to receive suggestions from federal agencies as to how present practices could be refined to increase effectiveness, it is not so likely that they would be willing to be held accountable to federal agencies for the conduct (or misconduct) of Title I programs in their locality. An example of this reluctance is the "operational agreement" reached by the Assistant Secretary for Planning and Evaluation (ASPE) and the Council of Chief State School Officers prior to the 1968 survey. This agreement constrained the U.S. Office of Education (USOE) "(1) to make no state-by-state comparisons; (2) not to aggregate pupil data by school or state; (3) to clear for release all federal reporting forms through the Chiefs" (McLaughlin, 1975, p. 54). Ironically, ASPE's interest in the 1968 survey was primarily

oriented to improved policymaking at the federal level rather than to accountability at either the state or the local level.

Different views on the accountability vs. program development focus of an evaluation have also affected the degree of consensus at the federal, state, and local levels concerning the value of particular Title I evaluation data. The 1968 TEMPO study, for example, was regarded by ASPE as an unsuccessful attempt to provide information to help in development of Title I projects and in formulation of Title I policy at the federal level. Thus, the failure of TEMPO was seen as calling for new efforts to obtain this information. On the other hand, the Office of Management and Budget (OMB), which regarded TEMPO as an attempt to assess the effectiveness of Title I relative to present and proposed Title I expenditures, saw the results from the study as a mandate to reduce the Title I budget. As McLaughlin (1975) has noted,

In contrast to the assumptions concerning the role of information that underlay...ASPE's notion of reform, and that prompted TEMPO, the adversary process of appropriation politics appears to use new information in just the manner that analysts hoped PPBS could modify--if only at the margins. TEMPO was not used to fight "creeping incrementalism"; ironically, the study was used to sanction and support it. (p. 45)

It did not matter that both ASPE and OMB regarded Title I as a program authorizing categorical aid; they differed in their understanding and use of TEMPO data as a direct result of their different assumptions concerning the purpose of the study.

Conflicting Reports of Title I Effectiveness

Assuming that there is both agreement concerning the purpose of Title I and a common understanding of the purposes of efforts to evaluate the Title I program, decisionmakers at the federal, state, and local levels still have to make sense of evaluation results that report conflicting evidence of Title I effectiveness. This problem arose in the first few years after ratification of ESEA with the conflicting reports of the 1966 Equal Educational Opportunity Survey (EEOS) and the 1967 U.S. Commission on Civil Rights, on the one hand, and the 1967 and 1968 reports of the Commissioner of Education regarding Title I performance on the other hand. While neither the EEOS nor the Commission's reports dealt specifically with Title I, their implications

for the program were clearly negative. The Commissioner's reports, however, "glowed" with Title I success stories. The result was that the credibility of LEA evaluation efforts and the ability of USOE to manage such a large-scale program were called into question.

Thus, while differences in perception regarding the purpose of Title I and the purposes of Title I evaluation have resulted in apparently contradictory reports, the specific difference among the evaluations themselves, their individual contexts, operational definitions, objectives, methodologies, and designs also affected the comprehensibility and comparability of the Title I evaluation reports that were produced during the past decade. In Section II of this report, each of the 15 major Title I evaluations conducted during the period 1966-1977 will be placed in context, its operational definitions of key terms and variables will be presented, and its recommendations and their impact on later studies will be briefly described. In Section III the objectives, methodologies, designs, findings, and recommendations of each of these studies will be summarized in greater detail.

II. General Discussion of 15 Major Evaluations of Title I

Figure 1* is a time schedule for 15 major Title I evaluations that were conducted during the period 1966-1976. Figure 2 shows the agencies responsible for each of these studies. Based on records of monies awarded to contractors and on estimates of expenditures made by agency personnel, the total cost of these 15 evaluations of Title I was well over \$7 million.

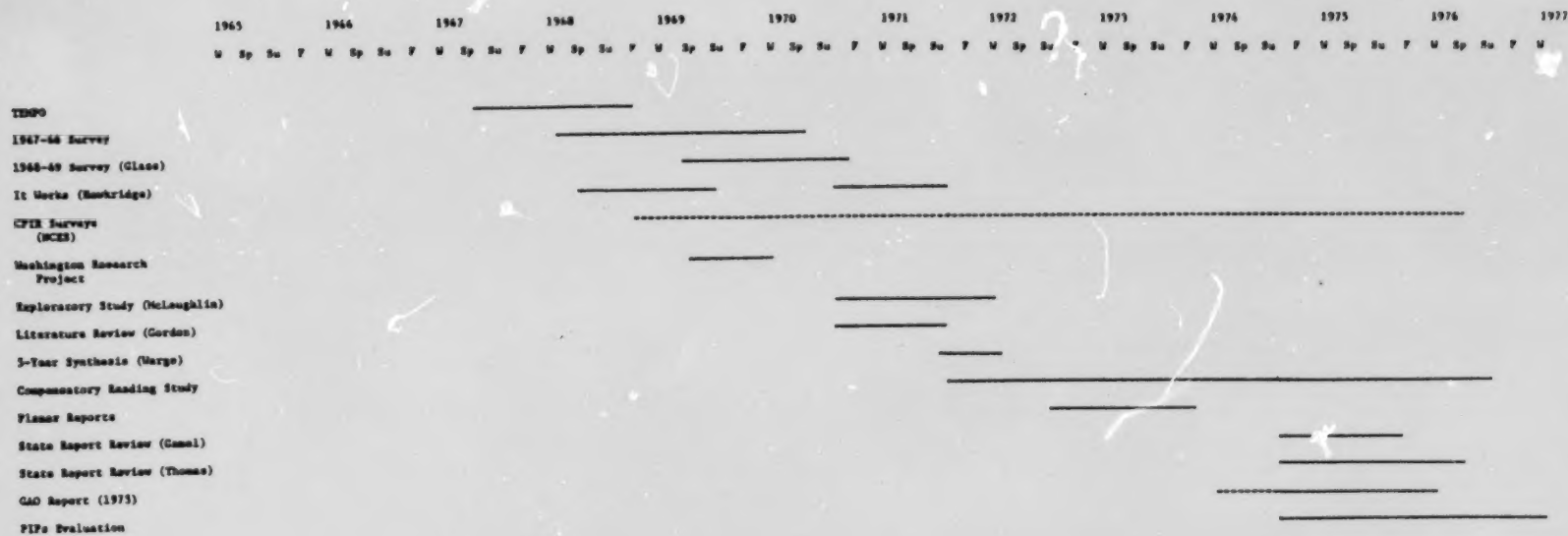
1966-1971. What is Compensatory Education, and Does It Work?

Figure 3 locates the nine evaluation studies conducted during the period 1966-1971 in the general context of events of that period. Generally speaking, each of these studies viewed Title I as a program of categorical aid to schools and sought either to assess its effectiveness or to describe its content. Milbrey McLaughlin (1975) noted that "it was frustrating for ASPE staff to admit to ignorance [in 1968] about the content and outcome of a program under their purview, especially a program as large as ESEA Title I" (p. 52). Tables 1, 2, and 3 show the types of information, principal information sources, and sample sizes associated with each of the studies carried out during this period. The following brief descriptions of each study are intended to provide context for the objective summaries presented in Section III.

TEMPO (4/67-9/68). This study was undertaken at a time when there was no record of previous federal evaluations of compensatory education. Participants in the project were optimistic that through analysis of operations in a few school districts nominated by the National Advisory Council on the Education of Disadvantaged Children as effective or innovative they could both demonstrate that compensatory education could be effective and determine the types of program likely to be successful. The latter would be accomplished simply by computing the coefficients in a linear regression equation whose dependent variable was achievement.

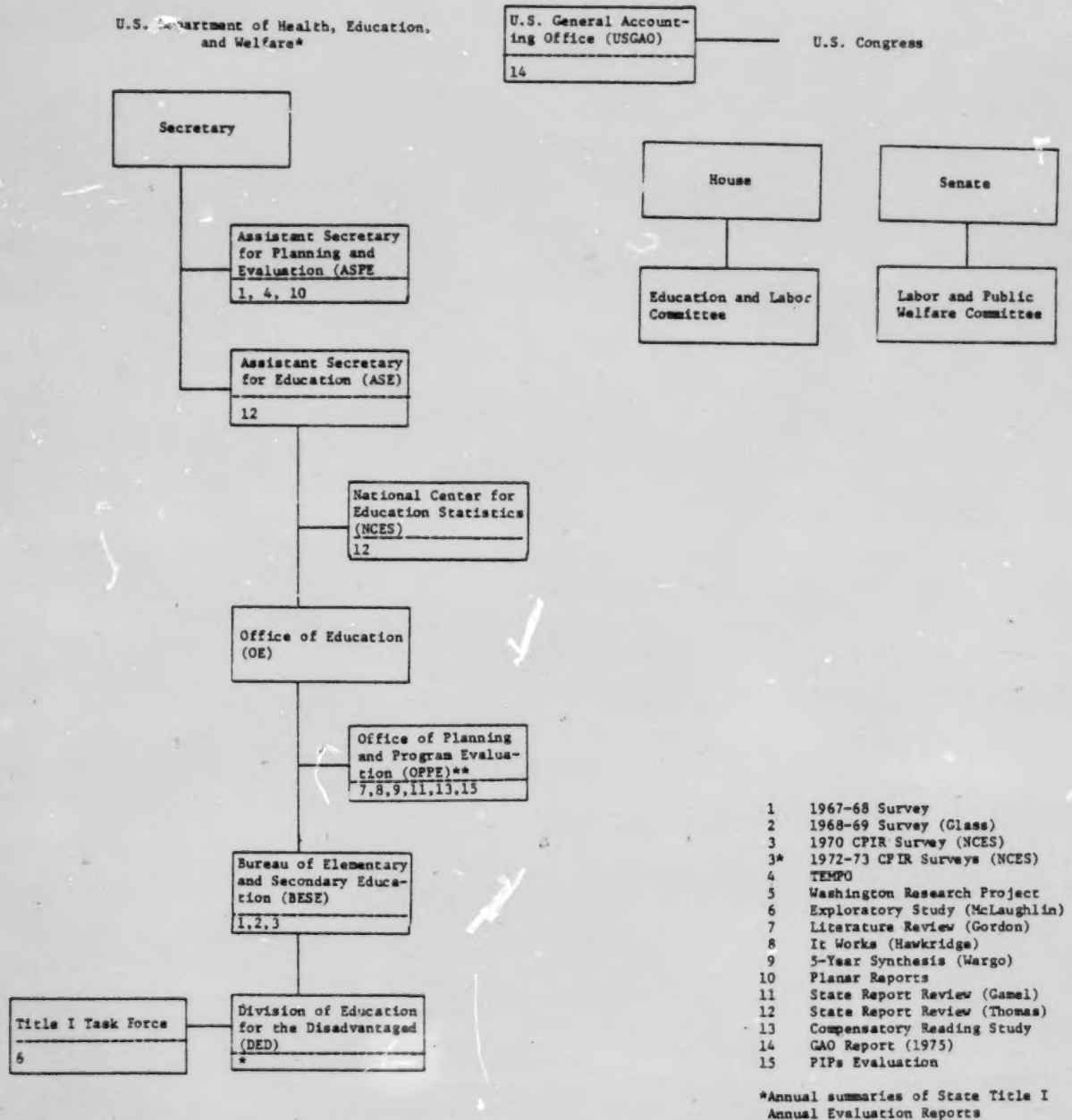
As Milbrey McLaughlin (1975) has pointed out, at the time of the TEMPO study, it was the aim of HEW to use quantitative evaluations.

*The short "titles" of the studies that are used in several figures and tables in this report are intended merely as convenient references to the studies. The studies are listed in the Table of Contents by more appropriate (though longer) titles, and the complete references are given on the colored sheets at the beginning of the summaries.



* Exact dates for the conduct of the 1970, 1972, and 1973 CPRE surveys are difficult to establish.
The dashed line indicates the approximate schedule for CPRE administration derived from NCEs staff estimates.

Figure 1. Schedule of major Title I evaluations



*The organizational structure of DHEW has undergone several changes during the period from 1965-1977. This figure depicts the offices within DHEW that were responsible for the major Title I evaluations conducted during that period and their interrelationship.

**The Office of Planning and Program Evaluation became the Office of Planning, Budgeting, and Evaluation (OPBE).

Figure 2. Agency responsibility for major Title I evaluations

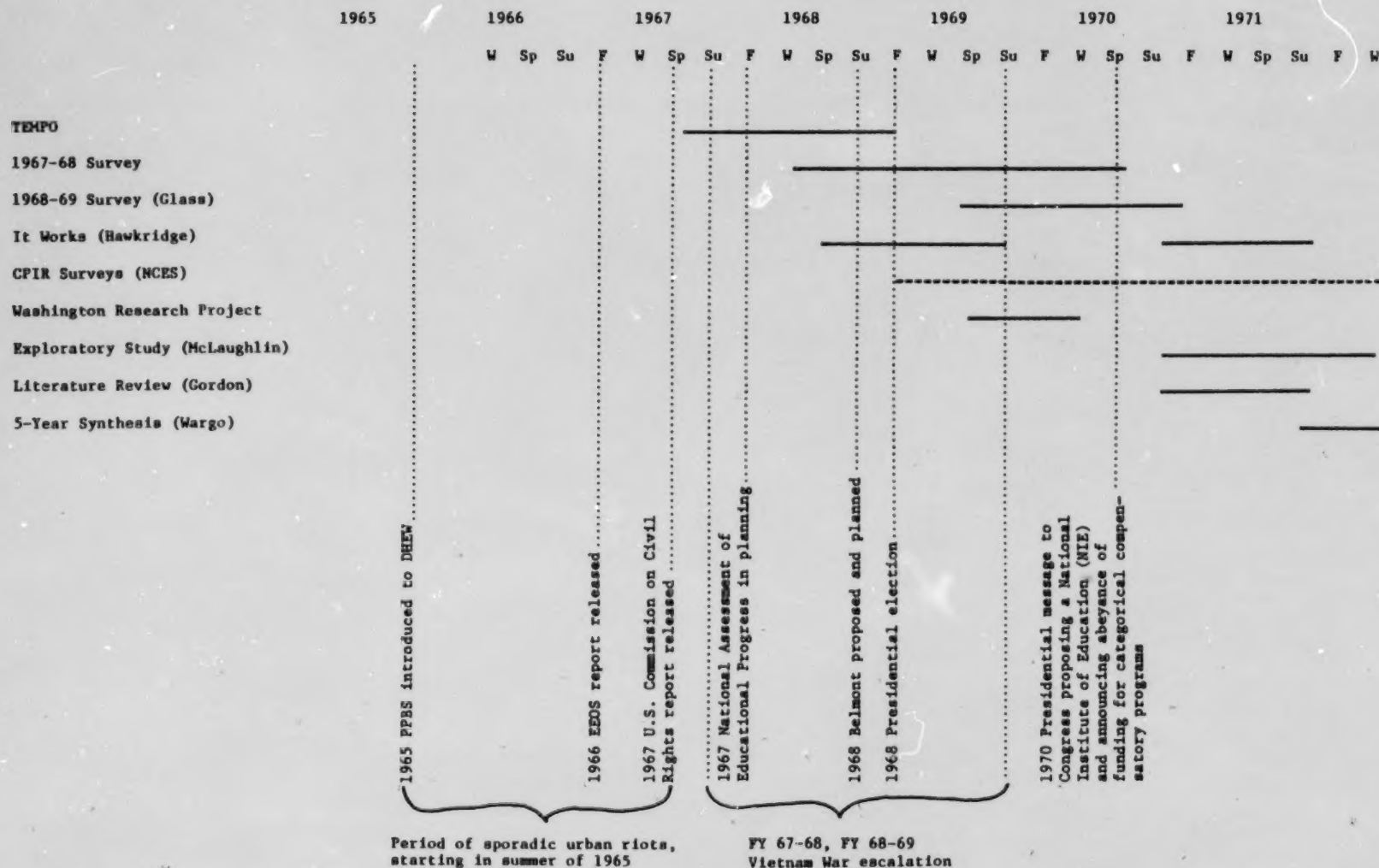


Figure 3. Context of major Title I evaluations carried out during the period 1966-1971

Table 1
Types of Information Provided by
Major Title I Evaluations Carried Out During the Period 1966-1971

	Funding	Participant Characteristics	Project Characteristics	Program Impact	Program Management	Effective Classroom Techniques
TEMPO	*			*		
1967-68 Survey	*	*	*	*		
1968-69 Survey (Glass)	*	*	*	*		
It Works (Hawkrige)				*		*
CPIR Surveys (NCES)	*	*				
Washington Research Project	*				*	
Exploratory Study (McLaughlin)	*		*	*		*
Literature Review (Gordon)			*			*
5-Year Synthesis (Wargo)	*	*	*	*	*	*

6

Table 2
Principal Information Sources Utilized by
Major Title I Evaluations Carried Out During the Period 1966-1971

	LEA Data	SEA Data	HEW Audit Agency Reports	Mailed Survey	Test Admin- istra- tion	On-site (i.e., program adminis- tration, project implementation) observation	Interviews with admin- istrators and parents	Analysis of research literature and policy documents
TEMPO	*						*	
1967-68 Survey				*				
1968-69 Survey (Glass)				*				
It Works (HawkrIDGE)	*						*	*
CPIR Surveys (NCES)				*				
Washington Research Project			*				*	*
Exploratory Study (McLaughlin)	*					*		
Literature Review (Gordon)								*
5-Year Synthesis (Wargo)		*	*					*

Table 3
Sample Sizes (by units of analysis) of
Major Title I Evaluations Carried Out During the Period 1966-1971

	# Pupils/ Pupil Records	# Projects/ Project Records	# Schools	# LEAs/LEA Reports	# SEAs/SEA Reports	# Types of DHEW Reports (only)	# Legislators, Title I Administrators, Teachers, Parents	# Title I Evaluations Reviewed	# Title I- Related Research Studies Reviewed
TEMPO				10					
1967-68 Survey			3,822	465					
1968-69 Survey (Glass)			2,920	438					
It Works (Hawkrige)		67							
CPIR Surveys (NCES)				942					
Washington Research Project					9	1	258		
Exploratory Study (McLaughlin)		43							
Literature Review (Gordon)									133
5-Year Synthesis (Wargo)					91(2 years)	5		3	10

11

methods to provide a "rational" basis for policy planning (p. 34). An interim report of the project refers to the "urgent need" for the project's results in order for DHEW to decide whether "to devote an important share of its resources to these programs" in specifying their FY69 budget and their five-year plan.

Despite several methodological problems, there was one general substantive finding from the study: achievement gains from Title I were not likely to be so great as to stand out in comparison with the many sources of random error and systematic bias that occur in evaluation. Due to its relatively small size (14 school districts were involved) and to its being the first major Title I study, no operational definitions were introduced that affected the conduct of later studies. Likewise, the recommendations made explicitly in the TEMPO report were received "with great disappointment" at ASPE and apparently did not influence program operation. TEMPO results did carry an implicit recommendation regarding future data collection efforts, however, As Alice Rivlin pointed out:

The results of this effort were not spectacular.... In fact, the TEMPO study did not show anything at all, one way or another, about Title I. It showed only how hard it is to find out anything about input-output relations in education, especially from a quick, low-budget project using existing data. (Rivlin, 1971, pp. 82-83) *

1967-68 Survey (1/68-4/70). BESE carried out this study according to Congressional mandate (in the 1967 ESEA amendments); evaluation data were to be obtained directly from a nationally representative sample of Title I schools, in contrast to the two earlier annual reports submitted to Congress by the Commissioner of Education. However, as Milbrey McLaughlin (1975) has noted, "ASPE's motives in supporting a new national survey of compensatory education were more aggressive than USOE's"; "ASPE wanted to use evaluation to make the schools work better and to make federal decisionmaking more efficient" (p. 52). Despite these differences, both ASPE and BESE saw the study as a promising way to remedy the failure of the "three-tiered reporting scheme" and thereby to provide more valid input into educational policymaking.

Five operational definitions that were used in the study and that meaningfully affect interpretation of its findings were.

1. Title I school--a school providing services supported under Title I;

* Systematic thinking for social action. Washington, D.C.: Brookings Institution, 1971.

2. Title I participant--those pupils reported by teachers in Title I schools to be participating in an academic compensatory education program;
3. Economic disadvantage--determined by family income; children with family incomes of less than \$3,000 annually considered to be "severely disadvantaged"; those in the \$3,000-\$6,000 income category considered "mildly disadvantaged";
4. Educational disadvantage--determined by teacher estimates of the likelihood of pupils' completing high school; and
5. Multiple disadvantage--pupils who are both economically and educationally disadvantaged.

These definitions were also used in the 1968-69 survey.

The recommendations that appeared in the final report of the survey suggested several policy changes in Title I operation. However, due to the paucity of findings related to these recommended changes and to Title I impact generally, the 1967-68 survey had very little direct effect on the program.

1968-69 Survey (Glass) (4/69-8/70). BESE's primary purpose in conducting this survey was to replicate the 1967-68 survey in order to provide Congress with an annual report on Title I that could be used to assess trends in Title I performance from 1967-68 to 1968-69. The RFP stated that: ". . .providing an annual report for Congress was the main purpose which caused the initiation of the 1968 national survey. . . the other and more important goal of the 1969 survey is that of promoting sound management decisionmaking at the state and federal levels by providing good data on which decisions can be based." In her review of this RFP and of remarks made by BESE staff to ASPE, Milbrey McLaughlin wrote that "in light of the indifferent attention given the 1969 study, it is difficult to view these declarations as other than shibboleths offered to appease the gods of fiscal and programmatic authority" (McLaughlin, 1975, p. 60).

The operational definitions used in the 1968-69 survey were the same as the ones used in the 1967-68 survey. Unlike the previous survey, however, no recommendations based on the data were presented. Given the period of time during which results of the study were "held up," any recommendations

that might have been made would, it seems, have been pointless. In describing this report of the 1969 survey and its reception by USOE, Milbrey McLaughlin wrote:

...the report that was to provide 'definitive information on the efficiency of implementation of Title I ESEA and the effectiveness of that program' has never seen the light of administrative day, nor has it (officially) informed a single decisionmaker. Since it failed to serve its main purpose for USOE--to provide positive data for a report to Congress--the report has been, for all practical purposes, suppressed. (p. 61)

"It Works" (3/68-7/71). The TEMPO study and the 1967-68 survey of compensatory education indicated that the success of compensatory education projects could not be automatically assumed. Many individuals went further to question whether compensatory education could be successful. To investigate this question and at the same time build up an arsenal of known techniques for successful compensatory education, OPBE contracted with the American Institutes for Research (AIR) to "identify, select, analyze, and describe" successful projects.

The effort consisted of four phases, conducted under separate contracts. The first phase focused on 21 successful projects nominated out of over 1,000 that were in operation between 1963 and 1968. In the second phase, 18 of the successful projects were compared with 25 unsuccessful projects that were roughly matched to them to identify components associated with success. In the third phase, the set of 21 successful projects was expanded to 32 by including a few that had new evaluation data at the end of 1968 and by expanding the site visiting effort. The fourth phase included a new search for successful programs in operation between 1968 and 1970, yielding 10 more successful projects.

An operational definition that was used in this study and that significantly affects the interpretation of findings was:

Educational significance--a program was considered to have achieved the "educational significance" criterion for inclusion as a successful program if the average participant gained at least as much as the "average" student while participating in the program. In grade equivalents, that would mean a gain of at least 1.0 month-per-month; in percentiles, maintaining an equal percentile rank. However, the authors stated that

"as a rule of thumb, gains of less than a third of a standard deviation are nothing remarkable" (Hawkrige, Chalupsky, and Roberts, 1968, p. 25). They were pointing out the need for inclusion of standard deviations of scores in project evaluations.

The impact of the "It Works" study on the operation of Title I projects was negligible, although the study had considerable impact on Title I policy-making. Milbrey McLaughlin (1975) wrote:

If the outcome of an evaluation effort is measured by the degree to which it fulfills its intended objectives, the AIR study was an unqualified, resounding success. It furnished just the sort of positive, hopeful data that will justify budgets and that commissioners can take to Congress. In fact, the data from [Joseph] Froomkin's 1968 study [the "It Works" study] are still being used for these purposes. (pp. 87-88)

The methodology of the "It Works" study also influenced later searches for exemplary programs (e.g., the Wargo synthesis).

CPIR (1968-1976). The Consolidated Program Information Report (CPIR) was one of the instruments used in 1969 in Belmont, the federal/state evaluation effort. It was extended to include state samples as well as a national sample in 1970 and designed to provide overall management data necessary to estimate local education agency (LEA) participation, expenditure, and staffing patterns in specific federally aided programs. Thirteen federally aided programs are addressed by the CPIR, among them ESEA Title I.

The CPIR was intended to provide federal, state, and local education agencies with current and accurate information on expenditures, pupil participation, and staff characteristics related to the conduct of Title I programs. However, Milbrey McLaughlin has noted that (1) the idea for the CPIR originated at the local and state levels rather than at the federal level and (2) the CPIR was included in the Belmont effort by USOE with the understanding that the state and local agencies would provide more complete and accurate student achievement data in return. She wrote, "[Karl] Hereford agreed to develop and include the CPIR, a fiscal document to replace the narratives required by the Title I regulations, in return for standardized achievement data" (McLaughlin, 1975, p. 107). Susan Smith, in an interview with McLaughlin, stated that "this was the one trade Hereford made in order to get them to give nationally representative achievement data. Apparently the states wanted state fiscal data" (p. 107).

The use of CPIR information (or any other information provided by the complete Belmont system) by program managers is impossible to document, however. McLaughlin wrote:

As of spring, 1972, there was no substantive analysis and interpretation of Belmont data, and no statistical report to Congress based on Belmont data (the 1968 survey report was the last report sent to Congress). Although the data from the 1970 survey were analyzed, they were not interpreted and no report was written. In the spring of 1972, the 1970 survey data existed as approximately 1,200 coded tables, meaningless to anyone except those in possession of the elusive codebook. At that time, no analysis had been done of the 1971 data. And there was no feedback or "products" to the states. A 1970 ASPE memo concerning Belmont observed that "many states" are beginning to ask the question--when are we going to get some benefits from all the data the Belmont is collecting? (McLaughlin, 1975, p. 103)

The CPIR differed slightly but significantly from the 1967-68 survey in its definition of the population of students eligible for receipt of Title I services. In particular, the CPIR considered the "low income" population served by Title I as consisting of "all children in ESEA Title I schools, whether or not they are from low income families."

In 1972, administration of and reporting related to the CPIR was transferred from BESE to NCES, a move that Milbrey McLaughlin characterized in the following way:

The removal of evaluation from BESE has removed evaluation from the focus of control of program management and development and cut off access of program people to information about the activities of the Title I program. OPPE does not collect program data, and NCES, according to program personnel, is always too late with too little to be useful to BESE or to DCE.

...With the transfer of BESE evaluation resources to OPPE, and the removal of Belmont to NCES, federal evaluation of and for the Title I program essentially came to an end. (McLaughlin, 1975, p. 111)

Washington Research Project (3/69-12/69). The authors of the final report of this project described their position as one very definitely in support of Title I and its objectives but also as one of concern that Title I was being misused. They stated:

This report is intended as a defense of Title I. Our criticisms are offered in order to make its operation more effective and to ensure that the Congressional intent is implemented. We believe that Federal aid to education is now firmly embedded in our system and should be encouraged, not weakened. However, we feel obliged to report to poor people, to minority people, to the President, to Congress and to the Nation what we have learned about Title I of the Elementary and Secondary Education Act of 1965. We hope by bringing to light some of the more flagrant misuses of Title I funds that a concerted and continuing effort will ensue to help poor children get what the Nation promised them when the Act was passed. (pp. vi-vii)

Unlike many of the other evaluations conducted during this period, the authors were not as concerned with presenting a scientifically unbiased picture of Title I as a national program as they were with highlighting problems in such a way that something might be done about them. The authors of the study were advocates, representatives of the poor--not "educational experts," who they claimed had "failed to inform the public honestly about the faulty, and sometimes fraudulent, way in which Title I...is operating in many sections of the country" (p. v). Results from this study clearly affected the view of federal policymakers toward the usefulness of local education agency evaluations of their Title I projects. These results were also relied upon heavily in the Wargo synthesis project's discussion of Title I program management.

Exploratory Report (McLaughlin) (7/70-12/71). This project was undertaken as one element in the research conducted by the Title I Task Force appointed by HEW Secretary Finch. It was carried out by the Center for Educational Policy Research under a general consulting and technical assistance contract with the U.S. Office of Education. The study's purpose was to identify the compensatory strategies which appeared most effective in meeting the needs of educationally disadvantaged youngsters.

Rather than attempting an overall evaluation of Title I, the authors limited their consideration to a few issues and strategies: (1) the effectiveness of structured reading programs vs. general enrichment programs in improving reading scores, (2) characteristics of effective parent participation programs, and (3) effects of parent participation on children's cognitive performance. They did not attempt to evaluate specific projects; instead, they reviewed the general compensatory education literature and the evaluations of the projects suggested by state Title I coordinators as successful

in meeting their objectives, to find evidence of strategies that "work" in compensatory education.

Recommendations were concerned mainly with further research strategies of the type used in this study but suggested additional questions to be investigated and called for more intensive efforts. One non-research recommendation concerned the initiation of urban workshops and training centers.

Literature Review (Gordon) (7/70-6/71). The results of the previous major Title I evaluation efforts during this period had been largely negative in terms of finding effects of the program on achievement. Evaluators attributed the problem to lack of systematic data collection at the local and state levels to ensure validity of their aggregation of results into national estimates. It was apparent that there was a "critical need for guidance of future efforts" (p. 2) both in the delivery of compensatory education and in its evaluation. Therefore, this study used data from the general research literature, as well as federal evaluation results, to attempt a systematic analysis and synthesis of the data from these various sources. The study focused on the research literature and on evaluations of the few exemplary projects in the country to find out what is likely to help compensatory education projects be effective. The resulting report, published only a few months earlier than the AIR systematic reanalysis and synthesis of evaluation data (Wargo et al., 1972), provides a constructive complement to that report.

The conclusions reached by the authors related both to the improvement of compensatory education and to the improvement of educational research and evaluation technology, for they found that "most of the studies are not very good" (p. 2). Those recommendations that concerned Title I evaluation methodology were specifically addressed to past evaluation efforts that had been made during this period. The authors wrote:

Instead of a national assessment or the simple concentration of funds in particular locations, new monies could be assigned to well-conceived programs having adequate theoretical foundations and coupled with adequate process-oriented evaluation. In these cases program and evaluation funds would be concentrated but quality of program and evaluation would not be left to chance. Under these circumstances random assignment of pupils to treatment and comparison groups could be assured; program elements could be specifically designed in relation to pupil needs, systematically varied for studies of efficiency, and systematically analyzed for studies of process. It will not be until we

take the problems of programming and the problems of evaluation seriously and allocate the necessary thought, time and money that the important questions and issues will be served by evaluative research. (p. 157)

None of the major Title I evaluations in the five years that followed this effort were conducted in accordance with these recommendations. Planned variation experiments and randomized assignment of pupils have not been made a part of the Title I evaluation effort.

5-Year Synthesis (Wargo) (6/71-1/72). Efforts to understand the effectiveness and the content of Title I projects and Title I program management during the period 1966-1971 were capped by this synthesis of previously conducted Title I evaluations. Employing the standard operational definitions used in the earlier studies, the Wargo synthesis attempted to pull together data from several sources in order to (1) assess the degree to which the Title I program was operating in accordance with the enacting legislation and associated regulations, and (2) assess the impact of Title I project participation in terms of cognitive and noncognitive benefits to pupils. The Wargo synthesis's operational definition of "Title I project" as any project or school program receiving any amount of Title I funds implicitly suggested that the assessment of Title I impact should not become bogged down in trying to "separate out" Title I effects from other school effects.

Three of the principal findings from the study painted a rather discouraging picture:

- Most states and many local school districts had failed to implement their Title I programs in full compliance with existing regulations, guidelines, and program criteria.
- Funds and services had been underallocated for academic programs, overallocated for supportive (nonacademic) services, and misallocated to children without critical needs for compensatory services.
- There was little evidence at the national level that the program [had] had any positive impact on eligible and participating children.

(p. 9)

Thus the "second period" of Title I evaluation (1972-1977) began with a clearer understanding of what was needed: concise description of Title I program and project processes and plans for increasing the effectiveness of

these processes. In particular, the two recommendations from the Wargo synthesis that called for state-level monitoring and technical assistance models and for the identification, packaging, and dissemination of successful state and local projects provided much of the rationale for the effort to develop PIPs and the effort to develop evaluation models for local school district use.

1972-1977: How Does Compensatory Education Work and How Can It Be Improved?

As in the earlier period, the major Title I evaluation studies conducted during the period 1972-1977 regarded Title I as a program targeted toward the needs of educationally disadvantaged children. These studies were in agreement that the measure of Title I effectiveness was its impact on students' cognitive and noncognitive development, and the studies' chief aim was to suggest ways in which the impact of Title I on students could be increased. In order to accomplish this aim, processes relating to program management and project operation had to be examined in terms of the levels of impact achieved (e.g., Compensatory Reading Study, Planar reports, Thomas and Pelavin, USGAO report) and new strategies for strengthening program evaluation and reporting procedures and project operation had to be developed (e.g., the analysis of state reports by Gamel et al. and the PIPs evaluation). Figure 4 illustrates the context in which these studies operated, and Tables 4, 5, and 6 show the types of information, information sources, and sample sizes associated with each one.

Compensatory Reading Study (7/71-6/76). According to the RFP for this study, the "results of this evaluation will help local, state, and federal people understand the progress the educational system is making in education of the disadvantaged children in the area of reading. It will attempt to identify strengths and weaknesses of what the educational system is presently doing so that local and state educational leaders may offer better technical assistance to compensatory education projects in reading." Reading had been identified as central to education, there was a considerable body of research on the teaching of reading, reading problems were receiving widespread attention from the public, and the largest single funding category of Title I services was for reading instruction. When Belmont collapsed in the early stages of the compensatory reading study, that study took on greater salience as the only major evaluation being performed on Title I.

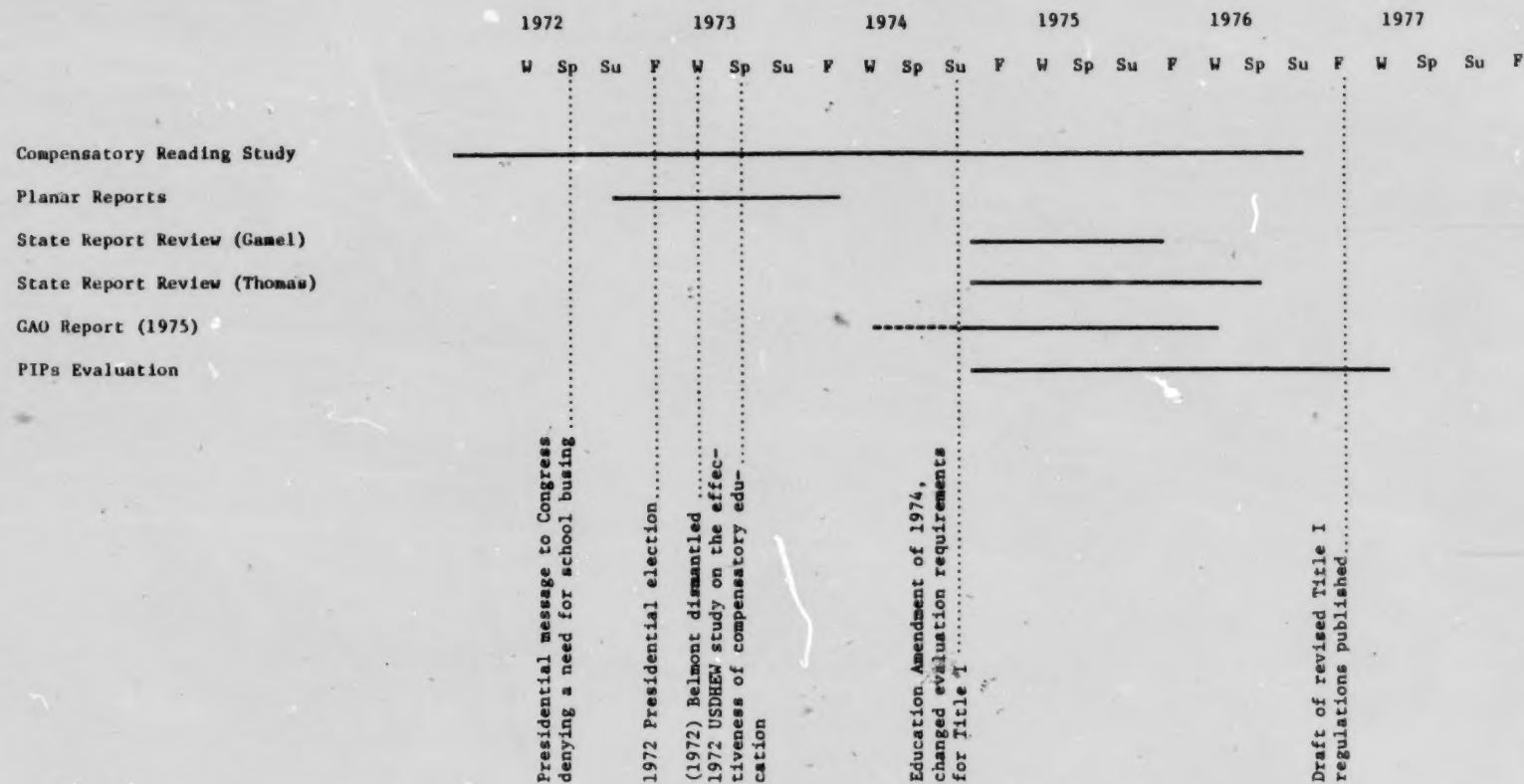


Figure 4. Context of major Title I evaluations carried out during the period 1972-1977

Table 4
Types of Information Provided by
Major Title I Evaluations Carried Out During the Period 1972-1977

	Funding	Participant Characteristics	Project Characteristics	Program Impact	Program Management	Effective Classroom Techniques
Compensatory Reading Study	*	*	*	*		*
Planar Reports	*		*	*	*	*
State Report Review (Gamel)	*	*	*	*		*
State Report Review (Thomas)				*		
GAO Report (1975)		*	*	*		
PIPs Evaluation						*

Table 5
Principal Information Sources Utilized by
Major Title I Evaluations Carried Out During the Period 1972-1977

	LEA Data	SEA Data	HEW Audit Agency Reports	Mailed Survey	Test Admin- istra- tion	On-site (i.e., program adminis- tration, project implementation) observation	Interviews with admin- istrators and parents	Analysis of research literature and policy documents
Compensatory Reading Study					*	*		*
Planar Reports	*	*		*		*		
State Report Review (Gamel)		*					*	*
State Report Review (Thomas)		*						*
GAO Report (1975)	*						*	*
PIPs Evaluation	*				*	*	*	

Table 6
Sample Sizes (by units of analysis) of
Major Title I Evaluations Carried Out During the Period 1972-1977

	# Pupils/ Pupil Records	# Projects/ Project Records	# Schools	# LEAs/LEA Reports	# SEAs/SEA Reports	# Types of DHEW Reports (only)	# Legislators, Title I Administrators, Teachers, Parents	# Title I Evaluations Reviewed	# Title I- Related Research Studies Reviewed
Compensatory Reading Study	55,000		731						32
Planar Reports				175	41(1 year)				
State Report Review (Gamel)					289(5 years)	1	76	1	
State Report Review (Thomas)					283(6 years)				12
GAO Report (1975)	1,481		59	15	14		NA		
PIRs Evaluation	3,500	21							

The definition of a Title I project used in the Compensatory Reading Study was very different from the one used in the Wargo synthesis. In the Compensatory Reading Study, a "Title I reading program" was operationally defined as "any compensatory reading program funded solely by ESEA Title I as opposed to non-Title I programs, which are funded entirely from other sources, and partial Title I programs, which combine Title I and other support for compensatory reading programs." Thus, comparisons of findings related to Title I impact from the Wargo synthesis with findings presented in the Compensatory Reading Study should be made with caution.

Planar reports (6/72-10/73). Whereas the Compensatory Reading Study was concerned mainly with processes associated with actual compensatory reading treatments, the Planar reports focused on Title I management procedures. The aims of the several documents resulting from this project were to provide guidance to DHEW in different aspects of its administration of Title I. Guidance was provided in the form of recommendations concerning the development of guidelines, the planning of evaluations, and the proposing of legislative changes. Because the central focus of the study was on procedures within USOE, attention to the states and local districts was treated as peripherally supportive of the general positions taken. Another substantial difference between this study and most of the others carried out during this period was the reliance on logical reasoning and common sense, rather than on systematic data collection, to produce recommendations. The reports presented only very rudimentary analyses of data but included extensive interpretations of the "current situation" in order to arrive at substantive recommendations for administrative and legislative action. Like the earlier recommendations of Gordon and Koutrelakos, the Planar reports recommended an abeyance of national surveys and the development of improved data collection standards. The Planar reports agreed with the emphasis placed in recommendations from the Wargo synthesis on the use of incentives to state and local education agencies as a means of improving program administration and reporting.

State Report Review (Gamel) (6/74-10/75). The purpose of this study was to develop an evaluation and reporting system that would be "suitable for a nationwide implementation at local, district, state, and federal levels" and that would "satisfy many, if not most of the evaluation needs of the Title I program at all levels." In pursuing this purpose, past State Title I

Annual Evaluation Reports had to be examined; the Work Statement prepared by USOE called for "evaluating these reports along several relevant dimensions, aggregating whatever valid and comparable data could be extracted from them, and examining any trends which might be found with respect to reporting practices and the content of reports."

Following upon the earlier synthesis of state reports (Wargo et al., 1972), which examined State Annual Evaluation Reports for fiscal years 1969 and 1970, this study examined state reports for the years 1971-1974 and DCE Annual Statistical Reports for the years 1966-1970 and synthesized findings with those from the earlier study.

Content analysis and analysis of data adequacy and validity showed that "there were serious discrepancies between the State Reports which precluded the aggregation of information across more than a few states at a time" (p. 17). The similarity of this finding to results of the study presented in the Wargo synthesis led the authors to conclude that between 1960 and 1974 "the states have not become significantly more consistent in terms of selecting similar population characteristics and evaluation techniques" (p. 18) and that "there were not identifiable trends toward more valid or consistent evaluation or reporting practices across the years" (p. 18).

Two operational definitions that were used in the study and that can affect the comparison of findings from this report with findings of the Wargo synthesis and the Compensatory Reading Study are:

1. Title I program--a broad area of instruction or service, such as reading, mathematics, health services, or food.
2. Title I project--a unit of one or more such services under a single administration.

The authors also noted that "in the AIR analysis [Wargo et al., 1972], no attempt was made to adopt uniform definitions, and tallies were made in accordance with the words used in the reports. Since states used the terms interchangeably, the AIR tallies by program and project are virtually meaningless, and are not comparable to the RMC tallies."

The outcome of this project goes beyond the publication of the final report. The project was part of a larger federal effort to help the states produce annual Title I evaluation reports that could be aggregated to satisfy

the Congressional mandate for an annual national evaluation report. As such, its primary purpose was to document the well-known need for such assistance and to involve the SEAs in the process of model development.

A point which should be noted to provide an understanding of the continuity of the efforts described in this document is that one man, G. Kasten Tallmadge, now at RMC, has made a very substantial contribution to the "It Works" study, the Wargo synthesis, the review of state reports by Gamel, the development of evaluation models and the concept of technical assistance centers, and the development of PIPs.

State Report Review (Thomas) (7/74-3/76). The purpose of this study was to examine the progress Title I had made toward accomplishing one of its goals: "the goal of increasing the reading achievement of disadvantaged students." After reviewing the available state reports, the authors pointed out that "for our purposes, the two major problems with the reports are that the samples of tested students in many states are small and not representative of the Title I participants" and that "tests, metrics, and times of testing vary within states and between years." Nevertheless, it was stated that "these reports are the best source of national information about the reading achievement of Title I students" (p. 6). Since RMC judged the quality of these reports on the basis of whether or not unqualified conclusions about the success of Title I could be drawn from them, Thomas and Pelavin pointed out that "RMC's criteria for acceptability of SEA reports were much more stringent than ours." They also noted that "with such small samples we can readily see why RMC stated that '...the data presented...do not constitute an adequate basis for assessing the national impact of the Title I program' (Gamel et al., 1975, p. 101)" (p. 22).

The same operational definitions were used in this study as were used in the state reports. Given the focus of the study and noting the many qualifying statements that were made, the "success of Title I" was assessed only in terms of the "unofficial criterion" of month-for-month gains in reading achievement.

The single recommendation that was made concerned the need for longitudinal study of Title I and was grounded in (1) the apparent contradiction between the state-reported gains of students during the school year and the absence of evidence from state testing data that Title I was having any effect

on low-percentile students, and (2) the suggestion made by existing research that disadvantaged students, including Title I participants, may actually lose as much as one month of achievement (on an absolute scale) during the summer recess from school.

GAO Report (1975) (approximately 1/74-12/75). This study was self-initiated by the U.S. General Accounting Office (USGAO) for the purpose of informing the Congress as to the effectiveness of Title I reading programs. As stated in the cover letter,

Because of the magnitude of Federal funds spent on reading activities and the flexibility allowed States in administering the program, we have tried to determine (1) its effectiveness in meeting students' reading needs and (2) the quality of its administration.

The study seems to suffer from several methodological problems; we say "seems" because the methodology employed in the study is not described fully enough in the report to allow the reader to evaluate it. Despite these problems, however, several recommendations were made to Congress, all of which were agreed to by USOE.

PIPs Evaluation (7/74-4/77). The PIPs evaluation represents an attempt to improve Title I project operations by facilitating the dissemination of models of exemplary Title I projects. In a sense, the original PIPs effort was a logical follow-on to the "It Works" study, containing a plan for facilitating local education agency adoption of exemplary project strategies. Ironically, the original PIPs effort might also have represented the first substantive attempt to satisfy the demands presented to the Title I establishment by Senator Robert Kennedy some ten years earlier--"identify five or ten working programs and make the local school adopt them" (Milbrey McLaughlin, 1975, p. 28). Evaluation of the PIPs was thus intended to facilitate the "spread of good programs." The findings of this project, however, were discouraging; the PIPs replication principle was found to be unsound (Stearns, pp. 65-66).

Two major current efforts are not included in this set of summaries because they are not to be completed until long after this document is printed. They are the NIE effort to evaluate compensatory education (of which this document represents a very small part) and the Sustaining Effects Study, being carried out by System Development Corporation for OPED. Both of those efforts

represent a substantially greater commitment by Congress to obtain relevant information about compensatory education than in the past.

In an interview with William Lobosco, of the Title I program office, we received a point of view that evaluators who would work with program administrators should seriously consider. Mr. Lobosco suggested that evaluation efforts for compensatory education should be focused in four areas:

- (1) Local districts should continue to carry out annual impact (summative) evaluations for local program assessment and improvement;
- (2) There should be periodic State and national reports (less frequently than annually) on the effectiveness of Title I (legislative revision would be necessary);
- (3) In intervening years, research efforts should be funded to address special questions using small samples; and
- (4) There should be continued attention to studies of basic skills acquisition.

(William Lobosco, personal communication, May 2, 1977)

These recommendations might be usefully compared to the actual achievements of existing evaluations and to the recommendations independently made in a companion document on evaluation methodology (McLaughlin, Gilmartin, and Rossi, 1977).

III. Evaluation Summaries

Each summary of a major Title I evaluation presented in this section is organized according to the format shown in Table 7. In those cases where a study did not provide information relevant to one of the format categories, or where the information that was provided did not, in the reviewer's opinion, add substantially to understanding of the Title I program, this is indicated explicitly ("no important findings were presented").* The first page of each summary provides a brief sketch of the study--the persons involved, duration, budget, abstract, report format, and references to relevant interim, technical, and final reports. Where information for one of these format categories has either been unobtainable or has relied on someone's "best estimate," this is so stated.

* It should be emphasized that reporting of findings was based on subjective judgments of importance. Many of the studies that were summarized contained some bits of information related to each "findings" category; however, only for those cases where this information was judged to be important for understanding the operation of the Title I program was this information reported.

Table 2
Format of Evaluation Summaries

Information on Initial Summary Page	
Title of the Evaluation	
Sponsor/Monitor	
Contractor/Project Director	
Duration	
Budget	
Abstract	
Report Format	
References	
Information in the Body of the Summary	
Objectives of the Study	
Research Design and Methodology	
Design	
Data Utilized	
Data Quality	
Findings	
Funding	
Participant Characteristics	
Project Characteristics	
Program Impact	
Program Management	
Effective Classroom Techniques	
Recommendations	
Recommendations for Policy	
Recommendations for Further Research	

THE TEMPO STUDY

Sponsor: ASPE. Active participants in the project included Joe Wholey, Bayla White, and Larry Wyatt of HEW, and Ellery Pollack, Iris Lipkowitz, W. W. Dick, Sue Smith, Mike Feldman, Bill McCarron, H. Spierer, Yeuell Harris, Stan Smith, Nita Turner, Walter LeBaron, Elizabeth Torbert, and D. Eyer of USOE.

Contractor/Project Directors: General Electric Company, TEMPO Center for Advanced Studies, Washington, D.C./Harold Asher and E.J. Mosbaek.

Duration: 4/67-10/67, extended to 9/68.

Budget: Estimated at about \$200,000 to \$300,000 for GE, plus extensive participation by government personnel.

Abstract: This study aimed to answer three questions: whether Title I was associated with achievement gains, what types of compensatory education were most successful, and what student, school, and environmental factors were associated with success. Fourteen of 20 nominated school districts were visited, and district achievement, program, and cost information were acquired for ten districts and analyzed. Comparisons of achievement were between the 1966-67 school year (=treatment) and the 1965-66 school year (=control). The results were generally negative, except for students in the lowest quartile on achievement.

Report Format: The final report of the project consists of 250 pages, of which 190 are detailed descriptions of compensatory education activities in each of five local school districts. In addition, four separately bound interim reports and drafts were made available for this study by the NIE Compensatory Education Study staff. Finally, an 18-page pamphlet describing the study in context was published by the General Electric Company, 2-1/2 years after the study was completed. Recommendations for Title I policy and Title I-related research were presented.

References:

- [1] Asher, H., Frola, F.R., Harrison, J.W., Mayer, D.S., & Windle, C.D. A survey and preliminary cost-benefit analysis in elementary-secondary education: Interim progress report. Submitted by GE to HEW, June 1967.
- [2] General Electric Company, TEMPO. A survey and preliminary analysis in elementary-secondary education: Final report. Submitted by GE to HEW, November 1967. (Appendix 1--Trip reports, bound separately and submitted in December 1967)
- [3] Mosbaek, E.J., with White, B., Frola, F.R., Gordon, K.F., and Harrison, J.W. Analysis of compensatory education in five school districts: Final report. Vol. I: Summary; Vol. II: Case studies. Washington, D.C.: General Electric Company-TEMPO, August 1968. (ED 023 531)
- [4] General Electric Company, TEMPO. Evaluation of Title I ESEA compensatory education. Santa Barbara, Calif.: General Electric Company-TEMPO, March 1971.

Objectives of the Study

The questions to be addressed by the study, according to the interim report ([1]) were:

1. Has statistically significant enhancement of pupil performance resulted to date from compensatory education programs, especially from Title I of the Elementary and Secondary Education Act of 1965? If so,
2. What are the distinguishing features of these successful programs?
3. What school, pupil, or environmental characteristics are also associated with successful programs?

As the study progressed, the second and third questions were de-emphasized apparently "successful" programs were found to produce less than successful results. Achievement was limited in definition to scores on reading tests because "reading is a fundamental skill in our society, and one in which disadvantaged children are most noticeably deficient" ([2], p. I-8). Absenteeism was also used as a school performance measure.

Research Design and Methodology

Design

The basic analyses consisted of comparison of scores in 1966-67 to scores on the same grades (different pupils) and schools in 1965-66. The authors noted that national trends in scores might bias the results, but they did not have the resources to measure such trends. No attempt was made to differentiate which children were receiving actual compensatory instruction within a class: the hypothesis tested was whether the whole class mean would change. Supplementary analyses included means for the lowest decile, the lowest quartile, and the highest quartile of each class.

In order to relate achievement gains to "selected initial conditions," regression equations were computed, using as independent variables the mobility rate, percentage of blacks, the mean achievement score at the start of Title I, attendance rate, and compensatory education funds per pupil.

In order to maintain the "unanimity" of the sampled districts, most of

the results are presented in terms of code numbers for the districts. However, it was a simple task to identify the districts from the reports. Thus, use of code numbers could not have been considered an effective safeguard of privacy. The present author is aware, however, of no instances of misuses of the results to the detriment of the participating school districts.

Data Utilized

Twenty school districts were selected by HEW and OE, based on "concentration of disadvantaged children and Title I funds, National Advisory Council for the Education of Disadvantaged Children consultant evaluation of effective or innovative programs, and availability of pupil achievement data for current and prior years" ([1], p. 3). Fourteen of these districts were visited, and data were gathered on 299 classes in 140 schools. Achievement data were based on whatever tests had been given in the district, in 1965-66 and 1966-67. Each pupil's score was transformed to a standard t score (normal distribution with a mean of 50 and standard deviation of 10).

Analyses of the ten districts for which data sufficient to perform the analyses were available were reported in a February 1968 draft, and five of these district were selected for inclusion in the final report. Those five districts ranked 1, 2, 3, 4, and 6 in terms of achievement gains of the ten districts.

Data Quality

Data problems that were pointed out ([1], pp. 35-37) included the use of different tests in different schools and years; unknown changes in norms between 1965-66 and 1966-67; lack of consistent and comparable socioeconomic information from different districts; lack of budget information for specific schools or projects within districts; lack of specific attendance information for grades within schools; and ambiguities of grade classification for schools on a semester plan.

Because of the many methodological problems with which the study was encumbered, any use of the results would be misleading. The primary flaws in the study were:

1. The use of 1965-66 performance as the comparison standard was not

justified; because of year-to-year changes that are known to have occurred, one can be reasonably sure that changes in achievement in the absence of Title I would have been of the same size as those observed. The authors of the reports mentioned more than once the need to make measurements necessary to estimate such trends; however, resources were not provided for such a study.

2. The nonrepresentative nature of the sample severely limited the types of conclusions that could be reached. Had the results indicated clear positive gains from Title I, this might have been less crucial, because the ultimate purpose of the study--to explore the reasons for the gains--could have been pursued with greater vigor.
3. The aggregation of scores on students who did and did not receive compensatory education was unfortunate. While it might be true that compensatory education done carefully would benefit all students in a school, the effects would be much less clear than if there had been focus on those actually receiving services.
4. In general, a great deal of the information acquired from local district administrators, especially cost information, was not usable for the study because it was not broken down into individual school or class statistics.
5. Aggregation of scores from different tests was based on untested assumptions about their similarities. Would a student receive the same percentile scores on different tests? The Anchor Test Study, completed six years later, suggests not.

Findings

Funding

It was found that regular school program expenditures tended to vary between years in amounts greater than the Title I budgets. Detailed examination of two districts showed wide variation both among and within schools and grades in compensatory education expenditures and activities.

Participant Characteristics

No important findings were presented.

Project Characteristics

No important findings were presented.

Program Impact

The (unweighted) average class mean change in achievement scores between 1965-66 and 1966-67 was $-.029$ standard deviation ($p < .05$), but the (unweighted) average mean change for the lowest decile was $+.025$ standard deviation ($p < .20$). This was based on t score transformations of data from 314 classes in 11 districts. The average class mean changes for the five districts described in detail ranged from $-.017$ standard deviation to $+.124$ standard deviation. For one district, the average mean change in the lowest decile was $+.318$ standard deviation. There was no clear relation between grade level and achievement gains, and achievement gains varied greatly between grades within schools. Attendance rate was positively related to gains, and as would be expected (as a statistical artifact), gains were negatively related to "pretests." Somewhat negative relations were shown for proportion of blacks and mobility. Based on 11 districts, spending was correlated $.30$ with average achievement gain.

Program Management

No important findings were presented.

Effective Classroom Techniques

No important findings were presented.

Recommendations

Recommendations for Policy

The following recommendations regarding Title I policy were presented: (1) "definition of more precise statements of the goals, objectives, and priorities of compensatory education programs"; (2) "concentration of Title I funds on limited objectives at the local level"; (3) "administration of Title I funding should be improved"; and (4) "it is also important to identify effective compensatory education approaches and to disseminate information to districts" ([4], pp. 17-18).

Recommendations for Further Research

A "need for evaluation over more than a 1-year period" ([4], pp. 17-18), was noted.

THE NATIONAL SURVEY OF TITLE I
FOR THE 1967-68 SCHOOL YEAR

Sponsor: BESE

Contractor/Project Director: The study was carried out by the U.S. Office of Education, with special consultants for different subtasks. NCES developed the sample, and consultants at the Stanford Research Institute (Dr. William Madow and Dr. Martin Gorfinkel) carried out initial analyses of the results. The report was prepared by the Bureau of Elementary and Secondary Education with assistance from Public Administration Service (Dr. Burton Friedman) and the Urban Institute (Ms. Bayla White).

Duration: Approximately 1/68-4/70, with data collection in June 1968 and January 1969. The report was submitted to Congress in April 1970.

Budget: Basic study: Approximately \$1.5-2 million. Subsequent analyses additional.

Abstract: This study represented the first attempt to comply with the 1967 ESEA amendments requiring a national evaluation of Title I. The major data source for the study was a survey of a nationally representative sample of 3,822 public elementary schools operating Title I programs in 465 school districts of 300 or more children. Secondary data sources included a Supplementary Survey on Compensatory Education conducted in January 1969, using basically the same sample as the 1968 survey, and the 1968 Annual Statistical Report of Title I program Activities. The results of the study were considered (1) to have defined the dimensions of the problem of reaching educationally deprived children, (2) to indicate that the public school district is the proper vehicle by which Congress can reach disadvantaged youngsters, (3) to show that the problems of providing special programs surpass the capabilities of many districts, and (4) to demonstrate that the formula used to distribute Title I funds did not substantially alter the fact that place-of-residence was the primary determinant of the quality of services provided to disadvantaged pupils.

Report Format: The final report is 268 pages long, including a 139-page appendix describing the methodology of the 1968 Survey on Compensatory Education. The report consists of an overview, followed by descriptions of Title I districts and schools, characteristics and needs of disadvantaged children, and programs funded by Title I. Each chapter contains numerous tables of numbers and percentages of pupils with particular characteristics and in particular locations. All percentages are extrapolated from the sample to the national population through differential weighting, as described in the appendix. The chapter on benefits from Title I-supported programs contains no quantitative data other than a reiteration of the numbers of students receiving particular services.

Reference: U.S. Department of Health, Education, and Welfare, Office of Education. Education of the disadvantaged: An evaluative report on Title I Elementary and Secondary Education Act of 1965, fiscal year 1968. Washington, D.C.: U.S. Government Printing Office, April 1970.

Objectives of the Study

According to the July 23, 1968 draft of the RFP for analysis of the 1968 survey data, the study had three objectives:

1. To describe the characteristics of pupils, teachers, school facilities, and compensatory education services in Title I eligible schools.
2. To examine the relationship between economic and educational deprivation of pupils in Title I schools, the extensiveness of compensatory services and resources provided those pupils, and their participation in compensatory education activities.
3. To examine the relationship between pupil participation in compensatory education programs, the quality of their environment, and pupil development as measured by standardized achievement tests and teacher perceptions of changes in the classroom behaviors of pupils. (M. McLaughlin, 1974; pp. 52-53)

Research Design and Methodology

Design

A hierarchical sampling design for the survey was developed by NCES. It consisted of the selection of 465 school districts as primary sampling units in four strata of district size, schools within districts as secondary sampling units, grades within schools as tertiary sampling units, and pupils within classes as the smallest units. Samples of schools within selected districts were drawn by a "modified" random procedure: each sampled district was asked to identify its "heaviest service" Title I school for inclusion in the district's sample of schools, and 5/7 of the other elementary schools were also selected. Questionnaires were sent to all principals and all teachers of grades 2, 4, and 6 in the sample schools, except for teachers of grades with fewer than 15 pupils enrolled. Each teacher in the sample was asked to complete questionnaires for three to six pupils in his or her class. The pupils were to be chosen systematically according to NCES guidelines in order to assure representativeness.

Data Utilized

Data for this Title I program evaluation were obtained from national and project-level sources. The primary data source used was the 1968 Survey of Compensatory Education, which consisted of a nationally representative sample of 3,822 public elementary schools operating Title I programs in 465 school districts of 300 or more children. Approximately 130,000* responses were obtained describing public elementary school pupils in grades 2, 4, and 6, their teachers, and their school principals. Overall survey response rates for sampled school districts, schools, and teachers were 93.3%, 87.9%, and 82.8% respectively. Response rates were not reported for teachers filling out pupil questionnaires. While reading achievement data that might be in a pupil's file based on performance on standardized tests were requested as part of the survey, analyzable data (comparable pretests and posttests) were received only for a nonrepresentative sample of approximately 11,490 pupils (approximately 9% of all returned questionnaires filled out by teachers for students).

There were two other data bases for the study. The first was the Supplementary Survey on Compensatory Education carried out in January 1969. This survey was of the same 465 school districts involved in the 1968 survey and focused on district expenditures of Title I monies. (Results from this Supplementary Survey were used to describe Title I and school district characteristics.) The other data base was the USOE Statistical Report for FY 68 on the third year of Title I, which was based on a national survey of Title I districts.

Data Quality

The accuracy of teacher estimates of pupil economic disadvantage was not assessed. The accuracy of teacher estimates of pupil educational disadvantage was assessed by comparing these estimates to the ratio of pre-program achievement test scores of pupils to grade equivalent norms. Assessment of pupil reading achievement was made on the basis of the nonrepresentative sample for which pre- and posttest data were available. Remaining achievement data were not used to assess Title I impact.

* Based on Table A-18, p. 226. Elsewhere the number mentioned is 150,000.

Findings

Funding

Concerning the allocation of funds to districts and pupils, the study found that districts with low regular per-pupil expenditures were receiving substantially less Title I funding per low-income student than districts with high regular per-pupil expenditures, and moreover, the low-expenditure districts spread the funds across a greater percentage of their disadvantaged students. As a result, individual disadvantaged students in high-expenditure districts received the benefits of over twice the Title I support accorded their counterparts in low-expenditure districts. The report suggests that this imbalance is primarily due to the particular legislated allocation formula.

With regard to the allocation of services, the study found that more than 80 percent of all Title I funds spent in 1967-68 were used to meet the primary needs of disadvantaged pupils either for basic skills development or for life support services, but that "the intensity of Title I support... appears to have been so low that it probably is unreasonable to expect measurable achievement gains by the average participant" (p. 85).

Survey data showed that the national average allocation of Title I funds for 1968-69 was \$157 per poor child. Districts with normally high per-pupil expenditures (greater than \$625) received an average of \$257 per poor child, while those districts with more moderate and low normal per-pupil expenditures received an average of \$142 and \$149 per poor child respectively. This was at least partially due to the part of the allocation formula that favored states that spent more already for schools. As a consequence of this disparity in fund allocations, high-expenditure districts received 16 percent of all Title I funds allocated in 1968-69, even though they had only 10 percent of the resident poor children.

In 1967-68, school districts spent \$1.057 billion from Title I funds: approximately \$627 million was used for instructional programs, \$216 million for services, and \$214 million was used for costs of administration, plant maintenance and operation, fixed charges, and construction and equipment. During this period, salary expenditures provided from Title I funds totaled approximately \$710 million or 67% of district Title I expenditures. Between

FY 66 and FY 68, expenditures for instruction and services rose from 59% of the Title I allocation to 80%.

Participant Characteristics

Concerning the characteristics of pupils in Title I schools, the study found that (1) about 57 percent of the pupils enrolled in Title I-assisted elementary schools were disadvantaged, as defined by teachers' reports of family income and pupil ability; (2) most disadvantaged pupils attended schools in which low-income pupils made up less than 26 percent of the total school enrollment; and (3) the proportion of disadvantaged pupils was greater among minority group members than in the general Title I school population. About 70 percent of the pupils served...were "educationally deprived", but less than half of those needing compensatory services and enrolled in Title I target schools actually participated in the special programs.

The point of view of this report was that Title I was intended for economically as well as educationally disadvantaged pupils and that life support services (e.g., health, food, clothing) are the appropriate services to be provided to pupils from impoverished families who are not educationally disadvantaged. Nationally, although 33% of all pupils in the surveyed (Title I) schools were reported to be educationally disadvantaged, only 26% participated in special academic programs. However, among those who participated in special academic programs, only 70% were reported to be disadvantaged. Thus it seems that students without educational or economic disadvantage participated in special academic programs supported by Title I funds while students with needs for such programs were not included in them. For example, the study reported that "in the lowest income group and among pupils whose teachers do not expect them to go beyond the 8th grade because of lack of ability, only 50 percent participated."

In terms of economic disadvantage, districts with normally low per-pupil expenditures (less than \$425) contained 46% of the nation's low-income children but provided services for 58% of all students receiving Title I services. The implication is that they were less likely to be able to generate the "critical mass" of funds for each participant to have a substantial impact.

Project Characteristics

Instructional services were focused on academic courses related to basic skill areas. \$292 million was spent on reading, which accounted for over 47% of all instructional expenditures, while \$56 million, or 9% of instructional expenditures, was spent on activities aimed at enriching pupils' cultural background. It was concluded that "this pattern of expenditure would seem to be consistent with the instructional needs of disadvantaged pupils." However, in terms of the intensity of support for instructional services, it was noted that "the Title I expenditure per participant in the several instructional areas appears to be low, particularly in the areas of basic skill development." For example, the average Title I expenditure per remedial reading participant was merely \$68, only a quarter of the estimated cost of a 1-hour per day class with 10 students. Approximately \$106 million was spent on life support and personal services (e.g., food, clothing, counseling, medical services) in 1967-68. While data on non-Title I funds available within districts for student services were unavailable for comparison, the study reported that "it is nonetheless evident that Title I does not meet the full need for such services." No results were presented on differing patterns of Title I services for different types of schools and participants.

Program Impact

In terms of gains in reading achievement from Title I, the report included no quantitative results, due to the small amount of usable data obtained. However, four qualitative results were stated: (1) participants had lower pretest scores than their peers, (2) both participants and nonparticipants gained about as much as they had before the program, (3) participants were not catching up, and (4) for both participants and nonparticipants, pupils who were reading below national norms tended to drop further behind in each succeeding grade level sampled.

On the basis of the 9% unrepresentative sample of pupils for which both pre- and posttest standardized reading achievement data were available, the study reported, after a "close analysis of the data," that

- (1) Schools did, in fact, select as participants in compensatory reading programs, those pupils with low scores on reading achievement tests;

- (2) for participating and nonparticipating pupils, the rate of progress in reading skills kept pace with their historical rate of progress;
- (3) pupils taking part in compensatory reading programs were not progressing fast enough to allow them to catch up to nonparticipating pupils; and
- (4) a number of pupils among both participants and nonparticipants had reading achievement levels below national norms. For both participants and nonparticipants that "deficit" grew progressively greater in each succeeding grade level sampled (grades 2, 4, and 6.) (p. 126)

Program Management

No important findings were presented.

Effective Classroom Techniques

No important findings were presented.

Recommendations

Recommendations for Policy

Five recommendations were included in the overview: (1) allow districts greater flexibility in combining Title I funds with other resources, (2) provide districts with funds for management assistance, (3) improve the correlation between needs and funds allocations, (4) provide a more balanced mix of financial support, and (5) give greater assistance to schools with the highest concentration of disadvantaged children. The five recommendations were justified in terms of two reasons given for the ineffectiveness of the nation's school districts in meeting the needs of disadvantaged youth. The reasons presented were:

- 1. "The tools and techniques for diagnosing and dealing with the needs of the disadvantaged are still in the stages of relative infancy."

2. "As a result of fragmentation in federal funding programs, of deficiencies in pupil census data, of the sheer insufficiency of funds from all sources, and of other factors, public school systems simply lack the resources to mount the major effort that the problems require." (p. 10)

Recommendations for Further Research

No recommendations were made.

THE NATIONAL SURVEY OF TITLE I
FOR THE 1968-69 SCHOOL YEAR
(THE "GLASS REPORT")

Sponsor: BESE

Contractor/Project Director: Colorado University, Boulder: Laboratory of Educational Research; Glass, G. V.

Duration: From approximately 4/69 to 8/70

Budget: \$1.5-2 million

Abstract: This study represented the second attempt to comply with the 1967 ESEA amendments requiring a national evaluation of Title I. It was to be a replication of the FY1968 survey, the data analysis for which was still underway when the 1969 survey began. The data base for the study was a survey of a nationally representative sample of 2,929 public elementary schools operating Title I programs in 438 school districts of 300 or more children. These analyses were organized with respect to four questions having to do with (1) the context of Title I, (2) the extent of needs for Title I, (3) the efficiency of Title I resource allocation, and (4) the impact of Title I programs. As was found in the 1968 survey, the allocation of Title I resources, while targeted generally to students with the greatest needs, was far from perfect. High-expenditure districts still received a disproportionate share of Title I monies, and Title I funds in many schools were being used to provide services to students who were neither economically nor educationally disadvantaged. In regard to impact, data on reading achievement test scores that were reported indicated that compensatory reading programs failed to assist students in overcoming reading deficiencies. 90% of the teachers surveyed, however, regarded compensatory programs for the academically disadvantaged as "generally worthwhile."

Report Format: The final report is 440 pages long, including three appendices that give (1) the survey questionnaires that were used, (2) the methodology of the 1969 survey, and (3) supplementary analyses of the data. Chapters of the final report discuss the strategy for eliciting evaluative information, the context of compensatory education in 1968-69, the needs of compensatory education, the allocation of resources of this program, and its impact measured both in terms of standardized tests and teachers' judgments.

Reference: Glass, G. V., with others. Data analysis of the 1968-69 survey of compensatory education (Title I). Washington, D.C.: U.S. Department of Health, Education, and Welfare, Office of Education, Bureau of Elementary and Secondary Education, August 1970. ERIC number: ED 057 146.

Objectives of the Study

The objectives for this analysis of 1969 survey data were the same as those for the analysis of the 1968 data--i.e., to describe Title I eligible schools, determine what students were being served, and measure Title I impact on pupils' achievement and classroom behavior.* In the introduction to the final report of the 1969 study, however, a schema for organizing data analyses was presented and used to generate specific evaluative questions to be addressed by the survey data. The schema consisted of (1) specification of Title I context variables; (2) relation of these variables to deficiencies in pupil performance and program operation to derive areas of need; (3) relation of these areas of need to measures of resource allocation to provide a basis for instrumental evaluation; and (4) relation of contexts, resource allocation measures, and pupil outcome measures to provide a basis for consequential evaluation. Eighteen questions were generated and serve as a more precise statement of what was to be accomplished (pp. 8-10):

Questions for context and operations description. What are the characteristics of pupils enrolled in Title I schools? of their families? of their teachers? of their curricula? What are the characteristics of Title I schools? of Title I districts?

Questions for needs analysis. Which context variables can be used to identify pupils, schools and districts having the greatest need for compensatory education programs?

Questions for analysis of resource allocation. How do a pupil's characteristics relate to his type of program? to the amount of time he spends in a compensatory program? How do teachers' characteristics relate to assignment to a disadvantaged class? to the characteristics of their pupils? to their inservice training participation? How do districts' characteristics relate to per-pupil expenditures? to concentration of service? to allocation of funds to inservice training?

Questions for analysis of outcomes. Is pupils' participation in compensatory programs related to increases in pupils' knowledge, skills and motivations?

*See our summary of "The National Survey of Title I for the 1967-68 School Year."

Research Design and Methodology

Design

The sampling design for the survey was developed by NCES and was the same as for the prior year's survey. It required the selection of school districts as primary sampling units, schools within districts as secondary sampling units, grades within schools as tertiary sampling units, and pupils within classes as the smallest units. Samples of schools within selected districts were drawn by a "modified" random procedure (each sampled district was asked to identify its "heaviest service" Title I school for inclusion in the district's sample of schools) with a sampling fraction of 1:1.4. Questionnaires were sent to all principals and all teachers of grades 2, 4, and 6 in the sample schools, except for teachers of grades with fewer than 15 pupils enrolled. Principals were asked to complete questionnaires for themselves and for a sample of individual pupils in their classes. Each teacher in the sample was asked to complete questionnaires for himself or herself and for three to six pupils in his or her class. The pupils were to be chosen at random according to NCES guidelines.

This design was to produce a national total and percentage estimates for critical variables within 5% of true national totals and percentages at a confidence level of 95%. It was not intended that the sample produce estimates of totals and percentages which would be representative for regions of the nation, states, school districts, or schools. The populations to which estimated totals and percentages were to generalize were composed of Title I participating school districts with enrollments of at least 300 (9,236 districts) and in those districts, the elementary schools (3,219 schools), elementary school teachers (215,995 teachers), and elementary school pupils (in grades 1 through 6 with a total enrollment of 15 or more students per grade--5,733,976 pupils) in schools which participated in the Title I ESEA program during the 1968-69 school year.

Discrepancy pretest and posttest scores were calculated on available achievement test data by subtracting a pupil's grade placement at the time the pretest or posttest was given from the grade-placement score earned on the test. Cumulative percentage distributions of the discrepancy between pretest scores in reading, math and language for grades two, four, and six

were presented. Residual gain scores were also computed, with adjustments made for differing times of test administration. These scores were derived in the following manner: "Within each parallel preprogram and postprogram test file, a least-squares regression plane was estimated for all pupil test scores, using postprogram test score as a dependent variable and preprogram test score and the time interval between the administration of preprogram and postprogram tests as independent variables." Change was measured as the deviation of the actual from the predicted postprogram test score for each pupil. Analysis of variance was used to ascertain differences in reading gain depending upon combined antecedent and transactional variables that might have been related to those gains. Correlational analyses were performed to ascertain what relationships existed between various pupil, school, teacher, and family characteristics and reading achievement gain scores. An alternative analysis of differences in gains in reading performance between participants and nonparticipants in compensatory reading programs, utilizing the analysis of covariance, confirmed "an essential equivalence of the two methods of analysis for the data in question." Appendix C to the final report presents multiple regression analyses of data collected from the 1969 survey. Factor analysis structural regression coefficients were calculated as part of these analyses.

Data Utilized

The data base for the study was the 1969 Survey of Compensatory Education that had been conducted by USOE, which consisted of a nationally representative sample of 2,920 public elementary schools operating Title I programs in 438 school districts of 300 or more children. Three types of question had been asked of teachers and principals responding to the 1969 survey questionnaires: (1) factual information that was available in most school records; (2) factual information that may not have been easily available from existing school records and that had, therefore, to be estimated in many cases; and (3) opinions of the respondent concerned mainly with the likelihood of students' succeeding in school as a function of their ability and their attitudes. Achievement test scores had been requested for students in grades 2, 4, and 6 in the sampled schools but, of the 104,080 pupil records that were obtained, only 7.5% contained achievement test scores analyzable for reading gain-score analyses. (This was about 1.5% less than was available for such analyses from the 1968

survey.) Response rates to the survey questionnaires were not presented in this report.

Data Quality

With respect to the impact of compensatory education programs on pupil behavior, the study found that "in general and for whatever reason, compensatory reading programs did not yield evidence in terms of performance on standardized reading tests that the reading deficiencies of participants had been overcome" (p. 193); however, "teachers reported nearly a 10 percent greater rate of some or large improvements in reading proficiency for participants in disadvantaged academic programs than for nonparticipants." The report noted that this discrepancy between test scores and teacher ratings could be due either to the fact that (1) "standardized test data permitting measurement of gains in reading were available for only a small, unrepresentative sample of pupils"; and (2) "teacher ratings can sometimes be subjective and influenced by desired outcomes." More importantly, the report noted that the analyses (and findings) related to impact that were presented were "less than fully trustworthy" since "it is doubtful that the question of program impact on pupil performance can be given a definitive answer by any methodology short of a controlled, variable-manipulated experiment, or at least a 'quasi-experiment' of established validity" (p. 225).

Findings

Funding

Major findings pertinent to the allocation of Title I resources were:

1. "High expenditure districts received 16 percent of all Title I funds allocated in 1968-69, although they enrolled only 10 percent of the resident poor children" (p. 189). Survey data (also reported in the prior year's report) showed that high expenditure districts received an average of \$226 in Title I funds for each compensatory education program participant, while moderate and low expenditure districts received an average of \$174 and \$108 per participant, respectively.

2. The most frequently used basis for allocation of Title I monies to schools by districts was the number of families receiving welfare. Thus, while richer school districts were receiving more money per participant than poorer districts at the district level, attempts were being made to concentrate funds on the more needy pupils. In spite of these attempts, however, "the extent of allocation of participation in compensatory programs to pupils not in obvious need was distressingly great." The tendency for need to be related to concentration of funds seemed to hold for Negroes and whites but not for American Indians, who had an even greater need but tended to be in districts spending less Title I money per participating pupil. These findings are also consistent with those of the 1968 survey.

Participant Characteristics

Major findings related to the description of the context and operations of Title I were that (1) "in the opinion of their teachers, approximately 2,050,000 pupils (about one-in-six) in grades 1-6 of Title I elementary schools will not complete high school" (p. 187); (2) the majority of disadvantaged pupils attended inner-city and rural schools; (3) "one-quarter (approximately 3,000,000) of the Title I elementary school pupils came from families in which the per family member income was less than \$800"; and (4) among minority group members, the proportion of disadvantaged pupils is greater than in the general Title I school population. These findings are consistent with those from the 1968 survey. In terms of needs analysis, it was found that (1) "the greatest incidence of an academic need was for compensatory reading programs" (p. 188); and (2) "the incidence of critical needs for compensatory programs proved to be related to pupils' ethnic-group membership, income level of the family, urbanism of the pupils' schools, whether or not the pupil attended kindergarten, the concentration of pupils of one ethnic group in the classroom, and the ethnic-group membership of the teacher."

The percentage of pupils participating in any program for the disadvantaged during the 1968-69 school year was correlated with school district size. During the summer of 1968, approximately 10% of the second, fourth, and sixth grade pupils in Title I schools participated in one or more academic programs for the disadvantaged, while slightly over 14% of the same population participated in one or more summer ancillary programs. It was found, however, that

in terms of a "rather gross measure of allocation of resources, rates of allocation of participation did not parallel patterns of need across rural, suburban, and urban schools." Student participation in "academic enrichment" programs was approximately one-third the level of participation in academic programs per se, with "Oriental pupils...represented at a rate above 6% (the percentage of enrollment in these classes of all students) in enrichment programs and...American Indian and Spanish-surnamed pupils...underrepresented in the group of enrichment program participants." An encouraging tendency was found for participation in academic programs to be properly allocated if a student was either poor or a potential dropout. "However, when one asks for the percentage of participants in academic disadvantaged programs who are neither poor nor potential dropouts the answers are less encouraging." Almost one-quarter million students participating in these programs were neither poor nor disadvantaged. Following this line, while it was found that reading was the single subject most often dealt with in classes for the disadvantaged, "approximately 17% of all of the schools reporting complete data showed a larger proportion of pupils participating in academic programs for the disadvantaged than the proportion of the student body reading one year or more below grade level" (p. 190).

With regard to participation in noninstructional programs for the disadvantaged, health programs served the largest number of students, followed by programs aimed at cultural enrichment, food services, and personnel service. Nearly half of all participants in noninstructional programs were reached through more than one program. While a relatively strong relationship was reported between concentration of noninstructional services and welfare status, it was also noted that "there is room for improved allocation among the vast numbers of participants in several ancillary programs who were not on welfare and among the nearly 45,000 pupils in grades two, four, and six...who were receiving welfare but participated in no ancillary programs." Also, while it was found that ancillary services "were concentrated where need was greatest, namely in the urban and rural schools... rural schools may not be able to concentrate ancillary services as efficiently as urban schools...."

Among all Title I elementary schools, 68% of the students in grades 1-6 participated in some type of program (academic or ancillary) for the disadvantaged during the 1968-69 school year. However, while a positive relationship was found between number of hours participation in academic disadvantaged

programs and pupils' needs, participation in ancillary programs "appeared not to be as accurately focused."

Project Characteristics

Regarding treatment intensity, "approximately 30% of over 300,000 pupils ...classified as 'poor and potential dropouts' received more than 100 hours instruction in academic programs for the disadvantaged during the 1968-69 school year."

Academic programs for the disadvantaged were found to differ from regular academic programs principally in that the former "tended to make greater use of reading instruction in subgroups of the classroom or with individual pupils." It was also found that "one-teacher 'instructional teams' were employed at a slightly higher rate in disadvantaged classes than in regular classes while no difference was found between these classes with respect to curriculum emphasis." Finally, although 50% of the teachers of disadvantaged classes received more than one hour of teacher training for these classes, in 41% of the districts with enrollments greater than 300 in which parents were used as aides in Title I projects, only 9% of the districts provided training for both parent aides and teachers. As the evaluators noted, "Section 106(11) of Public Law 90-247 requires that education aides be trained with the professional staff whom they will be assisting. This seems to be the legal requirement which Title I programs have most frequently failed to meet" (p. 192). (It was found that "approximately 11% of all districts represented by the survey did not have any programs for involving parents in the educational process.")

Program Impact

Four conclusions concerning reading achievement were presented based on reading gain-score analyses:

- "1. Participants in reading programs for the disadvantaged had lower pretest and posttest scores than nonparticipants. It would appear that compensatory programs were indeed reaching those who needed special help in reading.
2. Negative gain-scores for most 'participating' groups in all grades seem to indicate that even when a lower 'starting point' is considered, participants progressed at a slower rate than nonparticipants.

3. For nonparticipating pupils, progress in reading achievement generally kept pace with their advancement in years of schooling, i.e., at the end of one year's school experience they had gained one or more grade-equivalents in reading achievement on the average. This was not true for most participants in compensatory reading programs. Perhaps evaluation of the progress of those who have environmental and other types of disadvantage should not be compared with those who are not characterized by these handicaps, but compared only with pupils like themselves who are not receiving compensatory programs. (Such comparisons were not possible within the survey data.) Rate of learning, motivation, etc. would in this case be largely equitable, and program impact more validly discerned.
4. Increasing the number of hours spent by pupils in remedial reading, at least within the limits represented by ongoing programs reported in the 1969 Survey, did not reverse the losses suffered by participants" (p. 193).

Desired growth in personal and social behavior was judged by teachers to be substantially (about 10%) more frequent among participants in disadvantaged academic programs than among nonparticipants in six characteristics: relationship with other pupils, relationships with adults, attentiveness, completing assignments, disruptive behavior, and care in handling property. Teachers reported being highly supportive of compensatory programs for the academically disadvantaged. It was found that "two-thirds of the teachers felt that such programs for the disadvantaged were 'definitely worthwhile'" (p. 194).

Program Management

No important findings were presented.

Effective Classroom Techniques

No important findings were presented.

RecommendationsRecommendations for Policy

No recommendations pertaining to the conduct of Title I are presented. Given the period of time during which results of the study were "held up," any recommendations that might have been made would, it seems, have been pointless. In describing this report of the 1969 survey and its reception by USOE, Milbrey McLaughlin wrote:

...the report that was to provide 'definitive information on the efficiency of implementation of Title I ESEA and the effectiveness of that program' has never seen the light of administrative day, nor has it (officially) informed a single decisionmaker. Since it failed to serve its main purpose for USOE--to provide positive data for a report to Congress--the report has been, for all practical purposes, suppressed. (McLaughlin, 1974, p. 59)

Recommendations for Further Research

No recommendations were made.

THE "IT WORKS" SERIES

Sponsor/Monitor: OPBE/Harry Piccariello (Phases 1, 3); Steven Strickland (Title III) (Phase 2); Carl Wister (Phase 4). There were four separate contracts.

Contractor/Project Directors: American Institutes for Research, Palo Alto, California; David Hawkrige (Phases 1, 2, and 3) and Kasten Tallmadge (Phase 4).

Duration: Phase 1: 3/1968-9/1968
 Phase 2: 10/1968-12/1968
 Phase 3: 10/1968-6/1969
 Phase 4: 7/1970-7/1971

Budget: Phase 1: \$89,693
 Phase 2: \$9,096
 Phase 3: \$35,856
 Phase 4: \$96,998

Abstract: This effort was undertaken to demonstrate that there were at least some successful compensatory education programs and to help disseminate the principles and processes underlying success in some districts to other districts throughout the country. Using ERIC and supplementary sources, over a thousand potentially successful projects were identified, and of these, 42 were selected for site visits and detailed description (21 in Phase 1, 11 in Phase 3, and 10 in Phase 4). In Phase 2, 18 successful projects were matched to 25 similar but unsuccessful projects to isolate components associated with success. In Phase 4, 31 of the projects from earlier phases were reassessed (without site visits). Measurement of noncognitive as well as cognitive benefits was discussed, as were problems of carrying out cost-benefit analyses.

Report Format: Of the 1,017 pages in the four reports, 825 are either specific, detailed project descriptions or detailed comparisons between pairs of projects. The project descriptions all conform rather closely to a single outline consisting of five major headings: (1) program overview; (2) program description (locale and population, school system, relation of program to school system, history and needs assessment, objectives, personnel, methodology, and budget; (3) evaluation; (4) modifications and suggestions; and (5) sources of further information. The individual project descriptions average about 15 pages each and are quite specific about personnel qualifications and activities, resources and methods used, and results of evaluations. Few recommendations are presented but further research on Title I costs and benefits is called for.

References (for the four project phases):

- [1] Hawkrige, D. G., Chalupsky, A. B., & Roberts, A. O. H.
A study of exemplary programs for the education of disadvantaged children. Palo Alto: American Institutes for Research, 1968.
 (ED 023 776, ED 023 777)

- [2] Hawkrige, D. G., Tallmadge, G. K., & Larsen, J. K. Foundations for success in educating disadvantaged children. Palo Alto: American Institutes for Research, 1968.
- [3] Hawkrige, D. G., Campeau, P. L., Dewitt, K. M., & Trickett, P. K. A study of further selected exemplary programs for the education of disadvantaged children. Palo Alto: American Institutes for Research, 1969. (ED 036 668)
- [4] Wargo, M. J., Campeau, P. L., & Tallmadge, G. K. Further examination of exemplary programs for educating disadvantaged children. Palo Alto: American Institutes for Research, 1971.

Objectives of the Study

The first three phases searched for educational programs that (a) were directed at disadvantaged children from preschool to 12th grade; (b) displayed cognitive gains, primarily in reading, language arts, mathematics, or IQ; (c) showed evidence of sound evaluation; and (d) were not completed prior to 1963. The first three phases formed a unit, being carried out within the space of 18 months by a single project director (David Hawkridge) and his staff. The fourth phase, under the direction of Michael Wargo, was carried out two years later, and while it included a search for successful programs, it also emphasized the reassessment of 31 of the originally identified successes. In addition, the fourth phase included extensive discussions of two methodological issues: the measurement of noncognitive benefits, and the joint analysis of cost and benefits of compensatory education projects.

Research Design and Methodology

Design

The first phase focused on 21 successful projects nominated out of over 1,000 that were in operation between 1963 and 1968. In the second phase, 18 of the successful projects were compared with 25 unsuccessful projects that were roughly matched to them to identify components associated with success. In the third phase, the set of 21 successful projects was expanded to 32 by including a few that had new evaluation data at the end of 1968 and by expanding the site visiting effort. The fourth phase included a new search for successful programs in operation between 1968 and 1970, yielding 10 more successful projects.

In the first phase, successful projects were located by (1) a literature search that included, among other sources, ERIC; (2) ratings and selections by a panel of experts; (3) site visits to gain information necessary for program description; and (4) systematic description.

The comparisons in the second phase built directly upon the results of the first phase. Successful programs were compared, one by one, to unsuccessful programs found in the same literature search that had similar objectives and target groups. The third phase was a direct continuation of the objectives and activities of the first phase.

Data Utilized

The original data base consisted of various references to compensatory education projects: (1) in ERIC; (2) in USOE compilations such as the Pace-setters; (3) in Gordon and Wilkerson (1966) and Hess (1965); and (4) in nominations made in the fourth phase of the project by SEAs, the National Laboratory on Early Childhood Education, Regional Educational Laboratories, and USOE-supported R&D Centers. The methodology of the program nomination phase does not appear to have differed dramatically across the phases of the project; however, the methodology and its results are described in greatest detail in the report of the fourth phase of the project (Reference [4]).

On the basis of the data gathered from the sources cited above and supplemented by mailed questionnaires to promising projects, a few sites were selected for visiting and subsequent detailed description. Site visits were carried out by senior staff of AIR and aimed to gather in-depth information from project administrators. No visits were made to actual compensatory classes in session. Although site visit procedures were not described in detail, it may be inferred that each visit had a team consisting of one site visitor and lasted for one full day. An "interview guide," consisting of 88 questions in the categories of Context, Program Description, and Program Evaluation, is included in the report of the fourth phase of the project (Reference [4], pp. 19-22).

The most extensive data analysis consisted of the translation of evaluation data supplied by each project into a form conducive to clear description. All projects, once selected for site visits, were included in the series of detailed descriptions.

Data Quality

The general results of the attempts to make detailed descriptions were that the frequency of well-designed program evaluations was rare and that valid cost data (i.e., not based on misinterpretations of terms and noncomparable category labels) were almost nonexistent.

The comparison of successful and unsuccessful projects was purely qualitative, and the authors cautioned that "investigator bias may have influenced

the analysis of data from the programs" (Reference [2], p. 13). "From the strictest scientific viewpoint, the results of the study were that there is as yet only inconclusive evidence about the concomitants of success (and of failure). On the other hand, the authors perceived a consistency in the patterns before them..." (Reference [2], p. 14). Thus the findings about effective classroom techniques were intended to be taken as purely exploratory and tentative.

Findings

Funding

No important findings were presented.

Participant Characteristics

No important findings were presented.

Project Characteristics

No important findings were presented.

Program Impact

Those projects that were most clearly successful, based on continued operation and either clarity of evaluation results or replication of positive results in the fourth phase of the project, are listed in Table 8 (next page).

Concerning noncognitive benefits, the (cognitively) successful programs described in the project's fourth phase professed to have some; however, only eight tested for them, and only two tested adequately. The authors pointed out that a reason for this might be the relative paucity of standardized affective tests available on the market.

Program Management

No important findings were presented.

Effective Classroom Techniques

Careful planning, clear statement of (academic) objectives, teacher training in the methods of the program, instruction relevant to objectives,

Table 8

Most Convincing of the Successful Programs Identified in the Study

Grade Level	Title	Site
Preschool	Learning to Learn	Jacksonville, FL
	Preschool Program	Fresno, CA
	Program Early Push	Buffalo, NY
	Preschool Program	Oakland, CA
	Early Childhood Project	New York, NY
	Perry Preschool Project	Ypsilanti, MI
	Diagnostically Based Curriculum	Bloomington, IN
	Academic Preschool	Champaign, IL
Elementary	Programed Tutorial Reading	Indianapolis, IN
	The Plus Program	Buffalo, NY
	Afternoon Remedial and	
	Enrichment Program	Buffalo, NY
	Intensive Reading Instructional	
	Teams	Hartford, CN
	After School Study Centers	New York, NY
Elementary/ Secondary	More Effective Schools	New York, NY
	The School and Home Program	Flint, MI
	Homework Helper Program	New York, NY
Secondary	Junior High Summer Institutes	New York, NY
	Project R-3	San Jose, CA
	College Bound Program	New York, NY

individual attention to students, high treatment intensity, and parental involvement were found to be associated with success.

The only substantive results that were not specific to particular projects were contained in the report of the project's second phase. That phase was concerned with identifying characteristics frequently present in successful projects and frequently absent in unsuccessful projects. Of 91 components tested, three statistically significant interactions were reported: content-oriented approaches were more frequently successful ($p < .01$); a pupil-teacher ratio of between 6:1 and 10:1 was associated with success ($p < .05$); and cultural programs were less successful than others ($p < .05$). From the data presented in the report, it also appears that the presence of a qualified administrator was a factor in program effectiveness ($p < .01$). The report included recommendations for other processes (e.g., careful planning) that appear to be based more on subjectively logical arguments than on empirical data.

Recommendations

Recommendations for Policy

Although not specifically stated as a recommendation, it was hoped that compensatory education planners would use the project descriptions to improve their own projects.

Recommendations for Further Research

Other than the "components of success" identified in the project's second phase, the few recommendations made concern the need for more and clearer information about compensatory education projects, in particular about their costs and their benefits.*

*One other product of this effort, at least indirectly, was: Hawkridge, D. G., Campeau, P. L., & Trickett, P. K. Preparing evaluation reports: A guide to authors. Pittsburgh: American Institutes for Research, 1970. (ED 043 677)

CONSOLIDATED PROGRAM INFORMATION REPORT (CPIR):

1970, 1972, AND 1973

Sponsor: BESE (1970); NCES (1972, 1973)

Contractors: Applied Data Research, Inc. and Pinkerton Computer Consultants, Inc. (survey and data processing); Research Management Corporation (preparation of data analysis plan and final report)

Duration: Approximately 10-15 months per survey

Budget: Approximately \$350,000 per survey

Abstract: The Consolidated Program Information Report (CPIR) was one of the instruments used in Belmont, the federal/state evaluation effort, in 1969. It was extended to include state samples as well as a national sample in 1970 and designed to provide descriptive statistical data necessary to estimate local education agency (LEA) participation, expenditure, and staffing patterns in specific federally aided programs. (While thirteen federally aided programs are addressed by the CPIR, the following summary and analysis is concerned only with studies and findings related to ESEA Title I.)

Report Format: Reports average about 130 pages in length, most of which are devoted to presentation of summary and analysis data tables. No discussion is presented regarding these data. Brief descriptions of the history, purposes, and survey procedures employed are given and a copy of the survey report form used is usually appended. No recommendations are presented for either (1) conduct of nationwide surveys in the future or (2) conduct of any of the thirteen federally aided programs that are addressed.

References:

- [1] Crosby, R., & Weiner, L. Children in need and federal aid to education: An analysis of the 1970 CPIR. Bethesda, Maryland: Research Management Corporation, October 1971.
- [2] NCES. Consolidated Program Information Report: National estimates of pupil participation, staff, and expenditures, 1972. Washington, D.C.: U.S. Government Printing Office, 1975.
- [3] NCES. Consolidated Program Information Report: Pupil participation, staffing, and expenditures in federally aided programs operated by school districts, 1973. Washington, D.C.: U.S. Government Printing Office, 1976.
- [4] NCES. Summary data tables from the 1975 CPIR (mimeographed).

Objectives of the Study

The chief objective of the study was "to describe for State and Federal program officers the extent to which programs and services under their jurisdiction serve schools and pupils" (Reference [2], p. 1). More specifically and in relation to Title I, the CPIR was intended to provide state and federal program managers with information on pupil participation in and staffing patterns and expenditures for the Title I program.

Research Design and Methodology

Design

The 1973 CPIR sample of LEAs was selected "from the 11,666 LEAs with enrollments of 300 or more on the computer tape of the fall 1972 universe of local public school systems (Reference [3], p. 2). In addition, 260 LEAs that were participating in ESEA Title VII, Title VIII, or EOA-Follow Through were included in the 1972-73 sample (a total of 263 LEAs were added to the 1972 sample). The remaining population was then stratified by four regions (for the 1973 survey only) and five enrollment-size groups.

The 1973 CPIR random sample of 756 LEAs comprises the same number of LEAs in each enrollment size stratum as used in the random sample for the 1972 CPIR. However, in 1973, the 756 LEAs were allocated across 4 regions according to the proportion of the enrollment in the region to the total enrollment in the enrollment size stratum. Within each stratum, LEAs were ranked according to enrollment size. Substrata were then established, and a pair of LEAs was randomly selected from each substratum to represent all the LEAs of the substratum. (If a substratum contained only one LEA, that LEA was automatically selected.) Weights were developed for each LEA selected according to the following formula:

$$W_i = N/n$$

where N is the number of LEAs in the substratum and n is the number of LEAs selected from the substratum. The sum of the weights of the selected LEAs equals the number of LEAs in the sampling frame. (Reference [3], p. 2)

The 1975 CPIR sample was drawn in the same manner as the sample for the 1973 CPIR survey.

Data Utilized

Through extensive NCES and SEA follow-up efforts, responses were obtained from 93% or 942 LEAs (response rates were not available for the 1970, 1972, or 1975 CPIR surveys). "Based on 942 survey responses from the sample LEAs and imputations using peer districts for the 74 nonrespondent LEAs in the national sample, national estimates of the CPIR data items were made through conventional weighting techniques" (Reference [3], p. 20).

Data Quality

Since the primary unit of sampling in these surveys was the LEA, "the variability caused by sampling can be expected to be greater than that of an equal-sized simple random sample of teachers or pupils. Thus, while the design is efficient in terms of the degree of precision obtained per unit of survey cost, its sampling variability cannot be measured by the usual formulas developed for simple random sampling of individuals" (ibid., p. 21). When data were found to be missing, follow-up procedures were implemented that involved contacting state and school district personnel and examining state and local district records pertaining to federally aided programs. Imputation for nonresponse was used only when data could not be obtained directly from any of the above sources.

Findings

Funding

In 1970, 54.5% of all federal funds spent for educational programs were spent for Title I, whereas 45.5% and 41.2% of these funds were spent for Title I in 1972 and 1973, respectively. From 1972 to 1973 the proportion of LEAs with low per-pupil expenditures (less than \$50 per pupil) that had a large number of Title I pupils enrolled (over 25%) increased while there was a corresponding decrease in the proportion of LEAs with high per-pupil expenditures (more than \$300 per pupil) that had a small number of Title I pupils enrolled (less than 5%). The average per-pupil expenditure decreased from \$250 in 1973 to \$237 in 1974 and then to \$203 in 1975. In 1972, the number of public school students participating in Title I was approximately 21 times the number of students from nonpublic schools who participated. In both 1973

and 1975, public school enrollment in Title I was approximately 23 times the number of nonpublic school participants.

Table 9 illustrates the distribution of Title I resources for principal services provided by projects.

Table 9
Percent Expenditures by Category and Year
for the Title I Low Income Program

Service	% of total spent in 1971-72	% of total spent in 1972-73
Instruction: Total	62%	57%
English Language Arts	41%	44%
Math and Natural Sciences	9%	11%
Cultural Activities	3%	2%
Other Services: Total	15%	12%
Food	1%	1%
Clothing	3%	3%
Administration	10%	10%
Construction and Equipment	2%	1%
Fixed Charges	7%	8%
Other Expenditures	4%	2%

Participant Characteristics:

Large school districts (125,000 enrollment or greater) and districts with enrollments under 35,000 received the largest (and nearly equal) shares of Title I funds on the average, while districts with enrollments of between 35,000 and 125,000 (approximately 6,000-7,000 districts) received, approximately, 40% less funds on the average. For both 1972 and 1973, as district size decreased the percent of federal funds received by the district increased. Thus, LEAs with enrollments over 125,000 that received Title I funds tended not to receive more than 15% federal funding overall, while smaller districts (under 35,000 pupils)--which received about the same Title I share as the larger districts--received as much as 25% or more in federal funding overall.

There was a decrease in the numbers of children participating in Title I over the years; 5.9 million in 1972, 5.6 million in 1973, 5.3 million in

1974, and 4.6 million in 1975. Also, there was increased participation of students in grades pre-K to 6 from 1973 to 1975 (with a corresponding decrease in pupil participation at higher grade levels). In 1975, the ethnic distribution of participants in Title I activities enrolled in grades pre-K to 12 was: 41% black, 46% white, 11% Spanish-surnamed, and 2% other.

The number of staff persons (teachers, aides, and other nonprofessional staff) receiving training sponsored by Title I monies remained constant at approximately 180,000 per year for 1972 and 1973. Finally, Table 10 illustrates the trend for 1972, 1973, and 1975 of parental participation in ESEA Title I activities.

Table 10
Parent Participation in ESEA Title I Program Activities

Activity	Number of Parents Participating		
	1972	1973	1975
District and School Advisory Committees	155,758	161,292	126,983*
Other Title I Project Activities	446,835	473,436	250,361*

*The figures for 1975 should be interpreted with caution since the computer printout displaying them is incomplete. They have been included as tentative estimates only.

Project Characteristics

No important findings were presented.

Program Impact

No important findings were presented.

Program Management

No important findings were presented.

Effective Classroom Techniques

No important findings were presented.

RecommendationsRecommendations for Policy

No recommendations were made. However, the data are available for those who wish to conduct additional analyses.

Recommendations for Research

No recommendations were made.

THE WASHINGTON RESEARCH PROJECT REPORT

Sponsor: This was a non-federally funded project carried out by representatives of the economically disadvantaged and minority community, in particular the Washington Research Project and the NAACP Legal Defense and Education Fund, Inc. Financial support was provided by the Aaron E. Norman Foundation and the Southern Education Foundation. The authors of the report were Ruby Martin (WRP) and Phyllis McClure (NAACP LDEF).

Duration: 3/69-12/69

Budget: Unknown, but not large. Precise information unobtainable

Abstract: On the basis of numerous diverse reports of problems in the operation of Title I, a group that represented the constituency of parents of children for whom Title I was intended undertook a modest study to provide the basis for a hard-hitting report pointing out the confused nature of Title I administration that led to widespread misuse of funds. Relying on analysis of HEW audit reports and on interviews with officials in 9 states, 28 local Title I coordinators, 39 principals or teachers, and 191 parents, the authors recommended strong measures to tighten the operation of Title I.

Report Format: The report is 82 pages long including an introduction, footnotes, and 3 appendices. The appendices present excerpts from Title I legislation and lists of the school districts and HEW audit reports that provided information for this study. The chapters cover 6 broad problem areas; each chapter providing an introduction to the problem area and documenting instances of the problem found in the school districts surveyed. Many recommendations and policy changes at the federal, state, and local levels are presented.

Reference: Washington Research Project and NAACP Legal Defense and Education Fund, Inc. Title I of ESEA: Is it helping poor children? Washington and New York: (Author), 1969.

Objectives of the Study

The study examined what had happened to Title I in the four school years since ESEA was passed. The report focused on how Title I money was spent and how Title I was administered. It did not attempt to evaluate the educational value of specific Title I programs nor the impact of various kinds of compensatory education programs.

The problems of Title I operation were discussed in six broad areas: (1) use of the money as general aid, (2) use of the money in place of state and local funds, (3) use of the money for construction and equipment, (4) failure to meet the needs of educationally deprived children, (5) lack of community involvement and denial of information, and (6) improper management at the state and federal levels. In each area, one or more specific types of problem were discussed, and particular examples of the problem's occurrence were presented. Use of money as general aid, for example, was divided into five subtopics. These were (a) using funds for purposes that provided aid to all schools in a district, such as by purchase of a mobile unit that visited all schools; (b) using funds specifically for services provided to non-target schools, such as by "loaning" equipment from a Title I school to a non-Title I school; (c) failure to concentrate funds on needy children; (d) misuses of concentration, such as to discourage school desegregation; and (e) uses of funds by state education agencies for general educational administrative purposes.

The objectives of the study were not to assess the frequency of these problems but rather to point out that they had each occurred one or more times.

Research Design and Methodology

Design

There was relatively little systematic data collection in the study. It relied on analysis of HEW Audit Agency reports and on interviews with officials in nine states, 28 local Title I coordinators, 39 principals or teachers in Title I schools, and 191 parents. The selection of the respondents was unsystematic, although "an attempt was made to get a rough cross-

section of State and local systems which would represent different regions, various sizes of enrollment and mixtures of racial and ethnic groups" (p. vii). The content and structure of the interviews were not specified in the report, nor were the interviewers, other than that they were "staff members of private organizations" and sometimes "members of poor communities."

In no cases were data combined. The results of interviews were presented as particular cases, and in each case the district, city, county, or state involved was named in boldface print. Including repeated highlighting, 125 such references to particular units were made.

Data Utilized

"We interviewed Federal officials and examined records and files at the DHEW. This report relies heavily on information taken from government documents, especially the audits of Title I performed by the HEW Audit Agency."

They also gathered information about Title I in local school systems and State departments of education. State and local officials were interviewed to find out what programs were operating and what the attitude of school officials was toward Title I and toward poor children. Parents were interviewed to find how much they knew about Title I and how they had been involved in Title I programs in local school districts.

Data Quality

Of the approximately 100 instances of violations cited, most appeared to be straightforward, although a significant number were not presented in great enough detail for the reader to decide on their validity. The somewhat careless interpretation of the data is shown in the following example.

Some school systems do not spend their Title I money as they have outlined in their project proposals to the state. Unless districts are carefully audited, they may spend more on equipment than they told the State they would. HEW auditors found that the State of [named] had approved a Title I project proposal from [district named] for \$523,941, of which 40 percent was to be spent on equipment. When auditors visited the district, they found that the actual amount spent was \$256,735, of which 75 percent was spent on equipment (emphasis added). (p. 26)

Simple multiplication shows the district spent slightly less on equipment than they told the state (and much, much less on other expenditures).

The results are not useful for a general picture of Title I operation because of the unsystematic way in which the data were collected and interpreted. Although there is geographic coverage of the country, there is little indication, for example, of how prevalent each problem was even in the sample selected. If a problem is cited in one district, the reader has no way of knowing (1) whether that was the only sampled district with the problem, (2) whether that district was included in the sample because the problem was brought to the attention of the Washington Research Project, or even (3) what extenuating circumstances might explain the apparent problem. Furthermore, much of the content was based on HEW audit reports, which other authors have since argued are problematic to interpret because of conflicts and ambiguities in regulations, guidelines, and audit procedures.

Findings

Funding

In addition to the specific problems of use of funds for general aid, mentioned in the "Objectives" section above, the following problems were noted in the report:

- using Title I funds to equalize poor schools with other schools;
- using Title I funds to support programs previously supported by state and local funds;
- use of Title I funds for school lunches and other efforts for which other federal laws were designed;
- paying for buildings that were not used mainly for Title I purposes (a recurrent theme was the charging of total costs to Title I when only part of the benefit was for Title I children);
- overinvestment in equipment;
- payment for services that are particularly non-essential, such as physical education, swimming pools, data processing systems, uniforms, and recreational programs.

Participant Characteristics

No important findings were presented.

Project Characteristics

No important findings were presented.

Program Impact

No important findings were presented.

Program Management

Problems included:

- lack of formation of advisory councils or informing of parents;
- lack of involvement of advisory councils in project planning;
- denial of information on Title I projects to those requesting it;
- state lack of interest in HEW audit reports;
- state lack of guidance to local projects;
- federal lack of authority or failure to use authority to force compliance;
- "with few exceptions, the States lack the ability to administer programs in a manner faithful to national policy." (p. 43);
- "real responsibility for administering the law and spending the money is commonly not accepted at any level. Rather, it is shunted around in such a manner as to make impossible any rational and coherent administration." (p. 45); and
- many states had inadequate audit procedures; most did not exercise sufficient control over funds disbursed to local districts. (Finding of HEW Audit Agency).

The authors attributed the continuance of these problems even though they were known to the Federal government and acknowledged by the states, to "the fact that State departments of education are not yet equipped to administer a large program of aid to local school districts." Even California, with a

better than average record, found it difficult to meet all of its Title I obligations "on a limited administrative budget." (p. 52)

The federal government had conducted a program review in Mississippi but not in most states. The authors suggested that future events in Mississippi would indicate whether OE would enforce the law or whether it would "continue its present course of timid administration and implementation of Title I." (p. 56)

Effective Classroom Techniques

No important findings were presented.

Recommendations

Recommendations for Policy

The recommendations of the authors at the federal level were (1) for immediate federal action to demand restitution of funds from school districts that have used them illegally; (2) that HEW enforce the requirement of equal use of state and local resources in Title I and non-Title I schools; (3) that a larger staff and competent director be hired for the program, to ensure effective monitoring and evaluation; (4) that Congress hold a hearing on the use of Title I funds; (5) that the community participation requirement be strengthened; (6) that alternatives to the school system be funded where the school system is unable or unwilling to operate effective Title I programs; (7) that HEW force states to approve only projects that conform to regulations; (8) that Congress fund the full amount authorized; (9) that all efforts to make Title I a 'bloc grant' be rejected; and (10) that further study of the issues raised in this report be undertaken.

At the state and local levels, the recommendations were (1) that LEAs involve the community more, (2) that citizens demand information and a voice in planning, going to court if necessary, and (3) that states be truly responsible for the goals of Title I, while recognizing the cultural heritage of racial and ethnic groups.

Recommendations for Further Research

No important findings were presented.

THE EFFECTS OF TITLE I, ESEA: AN EXPLORATORY STUDY

Sponsor: Title I Task Force, DED

Contractor/Project Director: Harvard University Center for Educational Policy Research. The research was carried out by Milbrey McLaughlin, Rachael Bussard, Marshall Smith, and David Cohen with the assistance of other CEPR staff members.

Duration: 7/70-12/71

Budget: Unknown, but small: part of a general grant for consulting and technical assistance. The primary author was a first-year graduate student.

Abstract: This review of projects sought to identify the compensatory strategies that appeared most effective in meeting the needs of "educationally disadvantaged" youngsters. The project was undertaken in July 1970 as one element in the research conducted by the Title I Task Force, appointed by H.E.W. Secretary Finch. The final report consisted of papers focusing on two issues. The first paper explored the notion that structured, teacher directed primary grade language programs would be more successful in raising achievement scores than generalized enrichment programs. The hypothesis was investigated by a comparative review of the evaluations submitted to the Center for Educational Policy Research and by field visits. The second paper reviewed the effectiveness of several models of parent involvement in compensatory education.

Report Format: The 160-page report is divided into two sections, the first dealing with reading programs and the second with parent involvement in compensatory education. Appendices to the section on reading programs include a memo describing a preliminary study by Milbrey McLaughlin, and descriptions of sample reading programs chosen to illustrate models mentioned in the text (Diagnostic Clinic, Small Group Work, and General Enrichment). Appendices to the section on parent programs include 12 tables which give data on cognitive gains and cost-effectiveness for several parent programs.

Reference: McLaughlin, M., Bussard, R., Smith, M., & Cohen, D. The effects of Title I, ESEA: An exploratory study. Cambridge, Mass.: The Center for Educational Policy Research, 1971. ED 073 216

Objectives of the Study

The objectives of the study were to verify results that had been informally suggested in previous research. In their section on reading programs the authors hypothesized, based on earlier studies by Joan Bissell and Milbrey McLaughlin, that "structured, teacher directed primary grade language programs will be more successful in raising achievement scores than generalized enrichment programs"* (Introduction, pp. 1-2). The focus on reading achievement followed from the authors' perception that that is the only single area in which comparable data across a large number of projects could be obtained. This meant that they had to limit their selection of general enrichment programs to those that had taken improvement of reading achievement as one of their primary objectives.

The reason stated by the authors for studying parent participation was: "Most discussions concerning the improvement of education in the cities point to the need for more parent involvement.... Despite this, parents are involved in remarkably few compensatory programs" (Part II, p. 2). Also, it was not clear what form of parent participation might best help students learn. The authors used two contrasting conceptual models to order the evidence on effectiveness of parental involvement; programs which merely aimed to increase parent participation in school activities were compared with programs which aimed to train parents to teach their children.

*It is important to understand the authors' definition of "structured" and "generalized enrichment" programs:

Structured programs (a) outline two or three specific, operational objectives, (b) provide carefully planned and sequenced instruction prescribed for each child on the basis of a diagnosis made at the start of the program, and (c) are highly teacher-directed.

Generalized enrichment programs (a) have multiple program objectives reflecting attention to development of the "whole" child--e.g., cognitive, affective, and physical objectives, (b) base program content on a general inventory of student grade level needs, rather than individual diagnosis and prescription, and (c) have academic program content that is often merely an extension of typical classroom methodologies.

Research Design and Methodology

Design

The authors reviewed evaluations to find evidence of programs that "worked." They did not attempt to draw a representative sample, although they reported that "the sheer number of evaluations we reviewed leads us to expect that we looked at a fairly broad sample of Title I programming strategies" (Part I, p. 12).

Data Utilized

For the section on reading programs, the CEPR staff reviewed 672 evaluations from LEAs in 35 states. The programs for which evaluations were reviewed had been recommended by state Title I coordinators as having met their own objectives. Since this set contained only 14 structured programs with usable evaluations, state coordinators were asked to suggest structured programs and another 40 evaluations were received. Field visits were made to four structured programs in Wisconsin and Minnesota.

In the end, 34 structured programs and 35 general enrichment programs were deemed to be adequately described and evaluated to be included in the study. Both the structured programs and the general enrichment programs had to have verbal achievement as one of their primary objectives in order to be included. In reviewing the evaluations, the authors concentrated on full-year (not summer) language development or reading programs in grades 1, 2, and 3.

In order to study parent involvement, the authors examined the general compensatory education literature and reviewed university demonstration projects and some 500 Title I programs nominated by State coordinators (a separate set from those included in the "reading" study). Field trips were made to three sites.

The stated criteria for program selection in Part II were success of the parent program and the project of which it was part, replicability of the program design, and quality and comprehensiveness of the program evaluation. Two criteria of success were used: (a) effectiveness in involving parents and sustaining their participation, and (b) effectiveness in raising children's cognitive achievement.

Data Quality

Of the 67? evaluations reviewed for the paper on reading programs, only 69 (or about 10%) were deemed usable. The authors commented, "Local and state Title I evaluations are typically useless as a basis for scientific conclusions or policy inferences. In addition, our field visits have indicated that local evaluations are often misleading, and in some instances patently false" (Introduction, p. 7).

Of those evaluations with which they worked, they wrote "the most serious problems...stem from the lack of controls, lack of randomization, and the concomitant possible confounding of treatment effects. Teacher differences, pupil characteristics or other programs/experiences in the school, not the treatment itself, may account for post-test gains.... For example, most Title I evaluations do not make selection criteria clear. When--as is sometimes the case--children are chosen for their potential rather than degree of educational disadvantage, the likelihood of impressive gain scores increases" (Part I, page 17). Also, educationally and economically disadvantaged children may not necessarily represent the same populations and therefore their gain scores should not be compared as if they did, and the measures of verbal ability used by programs are not comparable. "Because we accepted a wide variety of measures, gains of one month on one test cannot be equated with gains of one month on another. Neither can we easily translate grade equivalent gains into percentage returned to regular classes or percentile increases (other measures often used). It is important to note, then, that 'success' is defined here simply as a 'yes' or 'no' proposition--did the program meet its own objectives?" (Part I, page 18). Apparently, the authors determined whether the program met its own objectives by comparing the program evaluation's statement of its objectives and its statement of its outcomes.

The review of compensatory reading programs undertaken in August 1970 and reported in Appendix B of the first paper was also used as evidence for the discussion of parent participation in the second paper. The authors reported, "Typically, [compensatory education] programs have not been evaluated in a fashion which is helpful in answering the questions posed by this paper--what are the outcomes of parent involvement strategies? Most programs measure and report only the overall program success in raising student achievement; little attention is paid to the effectiveness of parent

programs, per se, or to the specific contribution of parents to program outcome or to the effect of participation programs on the parents themselves. Measures of success with parents, where employed, are commonly locally constructed instruments designed to measure parent response to the program or parent attitude change. Teacher questionnaires which also address these questions are of the same genre, thus affording little in the way of comparability between programs or strategies" (Part II, pp. 18-19). In a footnote they pointed out, "Although all Title I programs are required by law to involve parents, a large number of programs afford 'paper' involvement at best. Consequently, it is often difficult when reviewing Title I evaluations to distinguish between the efforts of an evaluator to meet federal guidelines and genuine attempts to involve parents. In addition, many states did not require description of parent activities in Title I programs until fiscal year 1971" (Part II, p. 17, footnote). They also wrote, "In many instances, the available documents did not include statements of observable, measurable goals. In such instances, an attempt was made to infer goals from described activities" (Part II, p. 16, footnote).

Findings

Funding

Cost of structured reading programs varied according to the type of program; diagnostic clinic programs were typically expensive, ranging from \$800 to over \$1,000 per pupil. Based on the evaluation report of one of the reading programs (Hilo Reading Clinic), the authors commented that "there may be economies in this initial large monetary outlay" (Part I, p. 20). The Hilo evaluation reported that "all but a few of the total cases treated will not return for further treatment. This means that while the cost per pupil is high, this cost is non-recurring for all but a few cases." Small group work with a reading specialist outside the classroom cost around \$300 per pupil, and IPI cost about the same when the computer was not used. The low cost for small group work was attributed by the authors to the fact that most of these programs spent little on equipment, allocating the bulk of the program monies for teachers.

Parent involvement programs that produced cognitive benefits could at the same time be low-cost. One program, by utilizing parent volunteers, saved

salary costs as well as achieving parent participation. Once trained, parent home visitors could teach other parents, reducing later program costs. In the DARCEE* demonstration parent training program, preschool programs cost about \$1,500 per child per year, while the home visitor program cost about \$400 per mother. Parent training programs sometimes achieved greater effect for the same cost by influencing younger siblings (through the parent's training). In the Flint, Michigan parent training program, a teacher home visit program cost \$440/child for 18 months, home visits by parents who had experience with the teacher home visit program and who were supervised by a teacher cost \$300/child, and home visits by parents who were trained by the experienced parent home visitors cost \$225/child.

Participant Characteristics

No important findings were presented.

Project Characteristics

Structured reading programs were found to fall into three categories: diagnostic clinics, small group instruction outside the classroom, and individually prescribed instruction. A "representative" generalized enrichment (i.e., non-structured) program was described as offering five additional teachers to relieve classroom load, 24 teacher aides, an audiovisual technician, multisensory instructional materials, classroom art activities and exposure to art reproductions and recorded music, emergency clothing, free lunches for approximately 500 of the children, dental and medical services, and social work aides to communicate with the parents.

Strategies to involve parents included:

1. school sponsored group meetings such as PTA,
2. involvement of parents as volunteers in the classroom,
3. parent membership on parent or district advisory councils or on "task oriented" parent committees,

*Demonstration and Research Center in Early Education, George Peabody College for Teachers, Nashville, Tennessee. In a telephone call, April 1977, we learned that this project, which is discussed extensively in the CEPR report, is still in operation.

4. invitations to parents to visit the school for open houses or teacher conferences, and
5. home visits by teachers, social workers or community members.

Some of these are services to parents, informing them about the school, helping them meet other members of the community, and in some cases motivating them to improve their lives. Others are services the parents are encouraged to perform for their children. For each of the services there is an ineffective and an effective way to perform it:

Ineffective

1. Formal meetings, with lecturers and discussions of business.
2. Parental volunteers given menial classroom tasks.
3. Advisory committees made up of teacher aides or never given mandate.
4. Meetings for parents not well designed or publicized.
5. Home visits are critical of the parents' lifestyle.

Effective

1. Informal meetings, with group discussions and open agendas.
2. Parental volunteers are taught how to teach children.
3. Advisory committees given training in school policymaking.
4. Meetings for parents clearly advertised, with babysitting services.
5. Home visits aim to provide teaching methods and materials and are generally supportive.

Program Impact

CEPR "found no structured [reading] program that did not show a pupil achievement gain that was either highly statistically significant or equivalent to a one-month gain for each month in the program.... Results of the... general enrichment programs, on the other hand, were highly variable. While a few such programs met the minimum success standard of 1:1, most did not" (Introduction, p. 2). However, "even on the highly effective structured programs, the achievement of Title I students usually remains below that of their more advantaged peers" (Introduction, p. 3). The authors suggested that Title I may only "retard or stabilize the rate at which the 'educationally disadvantaged' students are falling behind" (Introduction, p. 6).

While the CEPR reviewers found "scant evidence which would allow us to conclude that parent participation leads to significant achievement gains,"

they concluded that "parent training of even a modest sort...can be said to positively and significantly affect the cognitive development of children--both the target youngsters and the younger siblings" (Part II, p. 64; underlines added). Actual data from evaluations of about a half dozen projects were included in an appendix to the report and show significant effects. These projects overlap the set included in the "It Works" series.

Program Management

No important findings were presented.

Effective Classroom Techniques

The hypothesis that structured reading programs would be more successful than general enrichment programs in improving reading scores was deemed not to be testable in CEPR's review of the evaluations, due to poor quality of most of the evaluations and the relatively small number of programs that could clearly be called structured.

Characteristics that "appeared" to the authors to be central to the success of structured programs were:

1. diagnosis for each child,
2. careful prescription based on that diagnosis,
3. sequencing of instruction for each child,
4. small group and/or individual work, and
5. emphasis on inservice training and close supervision of classroom activities.

Other characteristics they mentioned were practice (the amount of reading a child does is more important than what the child reads) and clearly stated cognitive objectives of the program.

Despite the difficulty in making valid inferences from the evaluation reports they reviewed, the CEPR staff did find some similarities in programs that had been successful in maintaining a high level of parent participation. "The vast majority of compensatory programs report (implicitly or explicitly) disappointing relationships with parents and low attendance at parent functions. Where these results are reported, one will typically find that parent

participation is sought through PTA-type meetings which are formal in structure and tone and run almost entirely by school personnel" (Part II, p. 20). Those programs that were successful in reaching parents and gaining their participation had initiated new strategies specifically aimed at the needs and interests of low-income parents. Parents were organized to help other parents, since low-income adults typically do not trust school professionals, even when they belong to the same ethnic group as the parents. The informal parent meetings not only helped teachers and parents get acquainted but in many cases were the parents' first friendly contact with members of the community outside their own family. Home visits by teachers helped to overcome barriers, as did provision of bilingual aides in programs where many of the parents were Spanish-speaking. Babysitters were provided to make it possible for parents to attend school meetings. Parents guided the topics of the meetings, asking questions and discussing what they were interested in.

A separate question is whether parent participation leads to cognitive gains for the children. The authors found "scant evidence" that parent participation in school activities, per se, led to cognitive gains for children. "Even though CEPR's review of 'successful' Title I programs found that parents do participate in the overwhelming majority of successful programs (the American Institutes for Research and the Great Cities studies reported similar findings) and that parental involvement of any kind is conspicuously absent in programs which fail to meet their objectives, all that can be said with justification about this finding is that successful programs and parental participation appear to covary together" (Part II, p. 38 including footnote). They suggested the explanation that "the personnel who staff successful programs are also the personnel who work well with low income individuals and who, with or without parent participation, can implement a successful program" (Part II, p. 38). However, they were of the opinion that the content of parent programs makes a difference in these programs' effect or lack of effect on cognitive gains. Programs that are primarily concerned with raising parent morale and increasing frequency of parent contact with the school may not influence children's cognitive achievement, but those programs that provide parents with concrete suggestions of ways in which they can contribute to their child's educational development, i.e., which train the parents to become teachers of their own children, may make a difference. The reports CEPR reviewed, such as the (British) Plowden report, did not resolve this question

since the programs discussed in them had been interested in parent participation levels rather than parent participation content.

In a recent personal communication, the principal author expressed the opinion that although the hypothesis proposed for the reading study may not be true, she feels now that there is strong evidence for the importance of parental involvement, especially if it employs the parent as a trainer, either in the classroom or at home.

Recommendations

Recommendations for Policy

CEPR suggested initiating urban workshops and training centers based on the sequential training model developed in the DARCEE cost-effectiveness study, in which a teacher trains parents who then train other parents, eventually resulting in the whole program being run by community members.

Recommendations for Further Research

Numerous recommendations are given for further research, mainly involving continuation of the same type of research in which the authors were engaged, but more intensively and with new hypotheses to test.

UTILIZING AVAILABLE INFORMATION FROM COMPENSATORY
EDUCATION EVALUATION, RESEARCH, AND SURVEYS

Sponsor/Monitor: OPBE

Contractor/Project Director: Teaching and Learning Research Corporation/
Edmund W. Gordon

Duration: 7/10-6/71

Budget: \$30,000

Abstract: The absence of systematic analyses and syntheses of data from hundreds of documents relating to compensatory education constitutes justification for a study unifying and evaluating already available information. Section One of this document introduces the need for such a study and discusses problems and procedures used in conducting and interpreting compensatory education evaluation research. Section Two delineates the status of compensatory education and Title I programs by citing major findings and conclusions from previous efforts, by representing findings graphically on a matrix and by summarizing major studies according to the following categories: academic skills, early childhood programs, affective development, parent and community involvement, staff training, overhaul of schools and school systems. Section Three elaborates on implications for evaluation research by considering exemplary studies of compensatory education, by analyzing survey and national assessment strategies and by proposing some answers to questions about the purpose, design, interpretation and policy determination for evaluation research. Abstracts of relevant literature and numerous programs plus a list of references are interspersed within the text. (ERIC)

Report Format: The report is 193 pages long, including 70 pages of abstracts of 133 studies reviewed. Another major portion of the report is devoted to a discussion of these studies in terms of content categories. The background of the study and its major findings are described at the beginning of the report, and a discussion of implementation for evaluation is included.

Reference: Gordon, E. W., & Koutrelakos, J. Utilizing available information from compensatory education and surveys. June 1971. ED 055 664

Objectives of the Study

The main task of the study was that of carefully examining the literature, mining it for new insights and consolidating it in order to better direct educational policy as well as further research in this field. (p. 2)

Seven major topic areas were selected for search: (a) the effect of amount and type of compensatory reading instruction on cognitive achievement; (b) the effect of amount and type of ancillary services on noncognitive change; (c) the combined relations in (a) and (b); (d) the effect of teacher characteristics on student attitudes, achievement, and absenteeism; (e) the effect of classroom management procedures on student attitudes, achievement, and absenteeism; (f) the estimation of the critical mass of effort needed to produce affective and cognitive gains in students; and (g) a search for evidence of new variables that might affect success of compensatory education programs, such as pupil and community participation in planning the program and use of noncertified personnel in the classroom.

Research Design and Methodology

Design

No new data analyses were undertaken in the study, although review of data analysis in the 133 studies described was a step in the synthesis of the results of the studies.

A concrete objective of the study was to produce a matrix of processes (independent variables) and outcomes (dependent variables) in which entries would be made of references to studies which found either significant relationships or lack of relationship. The matrix would serve as a content index to the results in the literature. A 24 by 9 matrix was produced which referred to 62 studies; the authors then wrote, "A casual study of this matrix reveals that it is not a useful aid in identifying crucial relationships between specific variables" (p. 27) but "it can be useful in determining those categories of variables with which much or little work has been done" (p. 28).

Data Utilized

The data base consisted entirely of the existing literature in 1971.

The method for searching the literature was not described, so it is impossible to evaluate the thoroughness and uniformity of the coverage. However, the number of studies for which annotated bibliographies are included is indicative of an extensive search. In addition to the 62 studies used for reaching the primary conclusions of the report, an annotated bibliography of 71 other studies was included, which were not represented in the matrix of results "due to the lack of an adequate delineation of the nature of the input variables, to a lack of evaluation procedures which make causal relationships possible, or to a lack of statistical analysis" (p. 160).

Data Quality

Findings with regard to the effectiveness of evaluation designs were presented first by examples of "high quality studies," second as inherent problems in doing research based on large national surveys, and third by attempting to separate which of Suchman's five criteria for program success should be addressed by national surveys and which by more controlled research studies. The authors proposed that national surveys be used for assessment of effort and of performance of the program but not for assessment of program adequacy to the needs addressed or of program efficiency, or of explanation of the relations between processes and outcomes.

Findings

The results are difficult to summarize because they were not quantitatively aggregated in the report. While it is not possible to make summary statements about program operation across the country, many potentially useful compensatory education strategies were discussed. By the nature of the discussions, it is extremely difficult to summarize them, and the reader is referred to the original report. Each study differed from the others on numerous qualitative dimensions, so that the results did not add to a coherent perspective on compensatory education. Gordon and Koutrelakos's attempt to index the literature in terms of a matrix of relationships studied is the closest to a summary of the results that is possible. With this caveat, we summarize the major findings and conclusions of the study.

Funding

No important findings were presented.

Participant Characteristics

The results presented are based entirely on the 1968-69 survey, and are summarized in our summary of that study.*

Project Characteristics

Nine types of compensatory service were discussed. (1) Interventions at the infant stage of development included perceptual training, concept and language development, social-emotional support, and parent training. (2) Interventions at the preschool level included enhancement of symbolic skills, mastery of language and quantitative prerequisites for school, problem-solving training, enhancement of self-confidence, and parent development. (3) Technological interventions included Sesame Street and computer-assisted instruction. There were (4) reading programs, (5) language and communication programs, and (6) mathematics programs. (7) Programs for affective development were found either at the preschool level or as ancillary activities in cognitive programs. (8) There were a few instances of major attempts at parental and community involvement. Finally, (9) there were staff training efforts.

Program Impact

General impact results are based on the 1968-69 survey, and are summarized in our summary of that study.

Program Management

No important findings were presented.

Effective Classroom Techniques

Concerning the effectiveness of alternative compensatory education strategies, the authors summarized their results briefly:

* See our summary, "The National Survey of Title I for the 1967-68 School Year."

The crucial elements in effective programs are (1) the human involvement of concerned staff, (2) learning experiences that reflect the special characteristics and needs of the individual learner, (3) interaction of more experienced persons (adults) with less experienced (children) on an individual or small group basis, (4) time for teachers to reflect on and plan for the individual pupils for whom they are responsible, (5) a systematic approach to the provision of directed learning, and (6) support in the home for the school based learning experiences of children. (p. 24)

The matrix of process x outcome relations was developed as a content index to the results in the literature. A summary of the matrix is shown in Figure 5. In addition to the results shown in that figure, five other dependent variable classifications were included. They were attitude toward self, effect on parents, level of aspiration, and learning style, and an aggregation of the findings of no relationships with any outcomes. Only one study was found that showed significant effects on parents, and one that did not; one study was found that showed no effects on learning style, and two that did not. Three studies were found that showed significant effects of some variables on attitude toward self; two of these and one other study showed no significant effects of some variables on attitude toward self. For each of the dependent variables included in the figure, at least a dozen different studies were cited. For only three cells in the matrix were there at least five studies showing significant effects and no more than one study not showing effects; these three cells were for the effects of (a) increased adult-child ratio, (b) staff skills development, and (c) parent education and/or involvement on general intelligence.

Six major aspects of programs or strategies of delivery were found to be related to achievement gains. (1) A tightly structured programmed approach including feedback to the pupil, combined with tutoring and individualized programming, is associated with pupil achievement. (2) Programs with individualized instruction, positive self-image development, and active parent support are associated with pupil achievement. (3) "The process of creating and the creative application of a curriculum, not the particular curriculum selected or developed, is what is essential to success" (p. 24, quoted from Weikart, 1969). (4) Affective support was found to be positively related to achievement gains, by Coleman (1966) and Zigler and Butterworth (1968), among others. (5) Parental involvement in the schools and in educating

	General Intelligence	Verbal Intelligence	Language Achievement	Reading Achievement	Mathemat Achievement
General Learning and Problem-Solving Skills	15(4)	6(3)	1(3)	3(1)	1(1)
Grouping Patterns	4(2)	3(2)	2	2(5)	2(3)
Increased Adult-Child Ratio	7(1)	3(3)	4(2)	5(5)	3(2)
Innovative Materials and Curriculum	4(1)	1	1(1)	3(2)	1
Language and Communication Skills	11(3)	4(2)	2(3)	3	1
Math Skills	3	1(1)	1	3(3)	3(4)
Motivation	3(1)	1(2)	--	3(4)	1
Parent Education and/or Involvement	6(1)	2(2)	2(1)	4(2)	2
Peer Relationships	1	--	1	2(2)	1
Reading Skills Development	3	1(2)	1(1)	9(13)	3(2)
Staff Skills Development	5	1(2)	(1)	1(3)	(1)
Affective Development	2	1(1)	1	(1)	--
Cultural Enrichment	3	(1)	1	1(1)	1
Diagnosis of Learning Deficits	1	--	1	(1)	--
Headstart/Montessori/Sesame Street	(1)	--	--	2(1)	1(1)
Paraprofessionals Utilized	3	(2)	1	2(5)	(1)
Motor Development	1	--	1	--	--
Psychological Support Services and Guidance	1	--	--	--	--
Teaching Machinery, Hardware	--	--	--	3(3)	2(1)
Specialists	1	2	3(2)	(2)	1(1)
Residential	1(1)	--	--	(1)	--
Support Services	1	--	--	--	--
Teacher Planning Time	2	2	--	1(1)	(1)
Teacher Expectations	1	--	--	1	--

*Numbers of studies finding no relationship are shown in parentheses. Empty cells refer to frequencies of zero.

Figure 5. Number of studies identified which had found statistically significant relationships between independent and dependent variables*

their children was related to achievement. Finally, (6) staff development is best focused on how to reinforce learning, how to plan for consistent instructional management, how to make use of "indigenous human and other resources," and how to use pupil assessment data to plan instruction for individuals and groups.

A major portion of the report is devoted to descriptions of findings from individual studies, categorized by topic area. The six major topic areas were development of specific academic skills (reading, language and communication, and combined reading, language, and math), developmental facilitation in early childhood (infant studies, cognitive, noncognitive, media), guiding and utilizing the affective development of children, involving parents and the community in the learning process, changing staff behavior through training, and changing schools and school systems.

Recommendations

Recommendations for Policy

Concerning strategies for compensatory education, while no explicit recommendations were made, analyses and conclusions were directed toward determining what works, and implicit in the conclusions that various factors were related to achievement was that these factors should be increased in the conduct of compensatory education.

The authors reiterated recommendations made earlier by themselves and others that instead of spending \$2 billion annually, an effort on the order of \$10 billion to \$50 billion is necessary to solve the problem.

Recommendations for Further Research

Concerning evaluation methodology, the recommendations were for less reliance on uncontrolled national surveys for answers to questions about what will work and greater commitment to rigorously controlled research.

Instead of a national assessment or the simple concentration of funds in particular locations, new monies could be assigned to well-conceived programs having adequate theoretical foundations and coupled with adequate process-oriented evaluation. In these cases program and evaluation funds would be concentrated but quality of program and evaluation would not be

left to chance. Under these circumstances random assignment of pupils to treatment and comparison groups could be assured; program elements could be specifically designed in relation to pupil needs, systematically varied for studies of efficiency, and systematically analyzed for studies of process. It will not be until we take the problems of programming and the problems of evaluation seriously and allocate the necessary thought, time and money that the important questions and issues will be served by evaluative research. (p. 157)

ESEA TITLE I: A REANALYSIS AND SYNTHESIS
OF EVALUATION DATA FROM FISCAL YEAR 1965 THROUGH 1970

Sponsor/Monitor: OPPE/Wallace Cohen

Contractor/Project Directors: American Institutes for Research (AIR);
Wargo, M. J. and Tallmadge, G. K.

Duration: 6/30/71-1/31/72

Budget: \$99,299

Abstract: This study aimed at evaluating Title I program operations and impact on the basis of data collected during the period of fiscal year 1966 to fiscal year 1970. In addition, data describing exemplary Title I projects were analyzed in an effort to identify factors associated with the success of these projects. Data bases included: (1) The Commissioner of Education's annual reports on Title I for the year 1966 and 1967; (2) the 1968 and 1969 nationwide surveys of elementary schools, teachers, and pupils; (3) DCE Annual Statistical Reports for the period 1966 - 1971; (4) 1966-1971 Annual State Audit Reports; (5) the 1970 State Management Review; (6) 1969 and 1960 State Annual Evaluation Reports; and (7) all major studies of exemplary Title I programs carried out from 1966 to 1971. Although much of the national and state-level information was found to be inadequate, it was concluded that (1) Title I had never been implemented in compliance with major regulations and (2) at the national level, the program had negligible positive impact on students. Review of data on exemplary Title I programs indicated that six factors were associated with successful Title I projects, although none of these project components was found to be either necessary or sufficient for success.

Report Format: The final report is 275 pages long including two appendices. The first appendix gives the scale used in evaluating data and instructions for its use, and the second gives descriptions of 41 successful compensatory education projects. After a 12-page executive summary, a 10-page introduction, and a 22-page description of the Title I regulations and the data sources for this report, there are five chapters dealing with substantive questions about Title I operation. These questions concern management of Title I, characteristics of children in Title I and other schools, the needs of children in Title I schools, resource allocation, and impact on students. The contents of these chapters are quantitatively descriptive, and although the data were repeatedly evaluated as nonrepresentative, judgments based on the data that were available were primarily negative, suggesting need for improvement.

References: Wargo, M. J., Tallmadge, G. K., Michaels, D. D., Lipe, D., & Morris, S. J. ESEA Title I: A reanalysis and synthesis of evaluation data from fiscal year 1965 through 1970. Palo Alto, California: American Institutes for Research, 1972.

Objectives of the Study

One objective of the study was to examine Title I process and outcome data and compare these data to federal regulations and national norms respectively. Specifically, process variables included; (1) management (including evaluation); (2) funds allocation; (3) service delivery; and (4) selection of participants; all but the first of these was requested in the RFP issued by OPP/E. Outcome variables included cognitive achievement and noncognitive benefits. AIR stated in its proposal that, while data indicating the nature of interrelationships between process and outcome variables would be sought, "it seems unlikely that any State Title I evaluation reports will present data broken down simultaneously by socioeconomic status, amount of achievement gain, and per-pupil cost." It was suggested that "assessments involving these characteristics will [more likely] be across projects, not within them, and that the characteristics will describe entire schools, school districts, cities, or states rather than subgroups of children within one of these organizational entities."

The study took as a second objective the description of "components of success" of exemplary Title I programs. In its proposal, AIR recognized that the two major objectives were qualitatively different, stating that, while "some treatments are more likely to produce measurable benefits of cognitive achievement...differences of this type...cannot be considered in an overall evaluation of Title I." However, although the RFP did not request the analysis of successful programs, AIR felt that this objective would significantly enhance the outcome of the study at little cost, because it built upon other recently completed AIR projects.

Research Design and Methodology

Design

The study reviewed and analyzed insofar as possible all Title I reports from 1965 to 1970. Each report was to be examined in terms of its scope, its content, and the quality of data upon which findings were based.

Data Utilized

While the RFP stated that all the reports written about Title I during the five-year period from 1965 to 1970 should be collected, AIR pointed out in its proposal that the constraints imposed by the six-month schedule of work made this an impossible task. (AIR requested in its proposal that the contract period be extended from six to nine months.) It was therefore proposed that "efforts be limited to State summary reports and other studies at an equivalent level of generality." Altogether, nine data bases were utilized, eight in the evaluation of Title I operations and impact and one in the description of exemplary Title I projects. Data for program evaluation were obtained from national, state, and local or project-level sources, while data used to describe exemplary programs were obtained from project-level sources only. The eight data bases used in the evaluation were:

- the Commissioner of Education's annual reports on Title I for 1966 and 1967 (USDHEW/OE, The States Report: The First Year of Title I, Elementary and Secondary Education Act of 1965, 1967; and USDHEW/OE, Title I/Year II, 1968);
- the 1968 and 1969 surveys of Title I elementary schools, teachers, and pupils (USDHEW/OE, Education of the Disadvantaged, April 1970; and Glass, 1970);
- 1966-1970 DCE Annual Statistical Reports (based upon national surveys of Title I school districts);
- 1966-1969 Annual State Audit Reports prepared, analyzed, and summarized by the DHEW Audit Agency and those annual reports prepared by that agency between fiscal year 1969 and 1971 and reported in the Schedule of Audit Reports Outstanding for the Period April 71 Through June 71;
- the State Management Review for 1970 (based on in-depth, on-site reviews of State Elementary and Secondary Education Act Title I, II, III, and V management and summarized in USOE, A Study of the State Management Review Program, June 1971);
- 46 State Annual Evaluation Reports for fiscal year 1969 and the 45 State Annual Evaluation Reports for fiscal year 1970;
- the final report of the Washington Research Project, carried out by the Southern Center for Studies in Public Policy and the NAACP Legal

Defense and Educational Fund, Inc., entitled Title I of ESEA: Is It Helping Poor Children? (prepared in 1969, this report was based on interviews with Title I administrators and participants and on reviews of DHEW Audit Agency and USOE records); and

- two studies of the characteristics of the nation's school-aged children (Root and Cata, Profiles of Children, 1970 White House Conference on Children, 1970, which was a summary of nationally representative data collected by various branches of government; and Simon and Fullam, Projections of Educational Statistics to 1979-80, 1971, based upon U.S. Census data and information collected by USOE's National Center for Educational Statistics).

The data base used in describing exemplary Title I projects was made up of eight studies of these projects carried out during the period from 1966 to 1971. These studies were: Gordon and Wilkerson (1966); Hawkrige, Chalupsky, and Roberts (1968a); Hawkrige, Tallmadge, and Larsen (1968b); Posner (1968); McDill, McDill, and Sprehe (1969); Hawkrige, Campeau, DeWitt, and Trickett (1969); Bissell (1970); Gordon and Koutrelakos (1971); and Wargo, Campeau, and Tallmadge (1971).

Data Quality

Content analysis and analysis of data adequacy and validity showed that national data were limited by their lack of comparison data, internal inconsistencies, reliance on opinion and estimation rather than "hard" facts, and variability of reporting formats. State data were found to provide a minimum amount of comparable information on population characteristics, incomplete and noncomparable information on expenditures, and incomplete and invalid information on cognitive benefits. Data describing local projects that were successful were deemed adequate.

Findings

Since this study was a reanalysis and synthesis of data collected during the period 1965-1970, some of the individual studies on which it was based are themselves summarized elsewhere in this report (e.g., Glass, 1970). In order to minimize redundancies, results presented in other summaries in this

report are not reproduced here.

Funding

The study found that funds and services had been underallocated for academic programs, overallocated for supportive (nonacademic) services, and misallocated to children without critical needs for compensatory services.

The report presents data on per-pupil expenditures and on expenditures by type of service, based to a great extent on State Title I Annual Evaluation Reports, which are evaluated as "not representative of the nation as a whole or of any aggregate of states. In some cases they are not even representative of the LEAs within the very states that provided data" (p. 139). Information on the relationship of expenditures to percentage of low-income children, of ethnic minorities, and of children with educational disadvantage, gathered in the USOE national survey for FY68, is summarized. A summary of that survey is also included in the present document. The most salient results concerning funds allocation are the following. Although funds authorized for Title I by Congress doubled from 1966 to 1970, actual appropriations remained constant at the level authorized for 1966, about \$1 billion. The percentage of appropriations spent for instructional services rose from approximately 53% in 1966 to 73% in 1970, while expenditures for noninstructional services remained fairly constant at an average of 9.5% during this period. Districts that reported low regular per-pupil expenditures were found to have the greatest concentration of low-income children; however, these districts received less funds than warranted by their numbers of low-income children and also were spreading their Title I funds across relatively larger numbers of students. As a result, high regular expenditure districts expended more Title I funds per participating pupil than did these low regular expenditure districts (\$226 vs. \$108). The reasons for this discrepancy are not discussed.

Basing their analysis on data from the State Annual Evaluation Reports, the AIR investigators wrote:

Nearly all of the reports (32 of 38) that answered the cost-effectiveness question on a purely subjective basis concluded that there was a positive relationship between expenditures and benefits. On the other hand, five of the six reports that presented empirical evidence concluded that no relation could be found. Despite the small number of cases involved, the

difference between the proportions of those two responding groups was found to be statistically significant...indicating that the conclusions based on hard data differed significantly from those made on the basis of subjective impressions (p. 193).

Participant Characteristics

Nationally, participation in LEA projects dropped from a high of 10.5 million children in 1968 to a low of 7.4 million in 1970. Schools that were selected for Title I participation had relatively high concentrations of children with one or more academic deficiencies. About 70% of participants, in FY 69 and FY 70, were in grades K-6 or preschool; only 30% were in grades 7-12. As suggested by standardized test results and teacher judgments of student needs over a period of years, the major academic problem of Title I students was reading retardation. Student participation in health and food service programs greatly exceeded the need for such programs as identified by teachers, and in all cases the number of children served without critical needs exceeded those with pressing needs who were served. AIR concluded that "clearly, the resource allocation process, especially in terms of assignment of needy students to appropriate compensatory programs, is in need of revision" (p. 164).

Project Characteristics

Instructional services were focused in the areas of language arts, mathematics, social science, culture, and physical education, while non-instructional or supportive services were in areas of health, food, pupil personnel, library, and transportation. There appeared to be a concentration of academic programs on disadvantaged children, minority group children, and children in rural and urban schools. However, in terms of the intensity of participation in these academic programs, the majority of disadvantaged children in Title I elementary schools received less than one hour per day of compensatory instruction. All noninstructional or supportive programs failed to serve a relatively high percentage of children with critical needs in the respective areas.

Program Impact

Standardized reading achievement test data that were reviewed were not

deemed to be nationally representative. However, they indicated that participants in Title I reading programs gained less during the period of instruction than nonparticipants and consequently fell further behind their nonparticipating peers and national norms. Although on the basis of the only seven State reports for 1968 and 1969 that provided "possibly representative" cognitive achievement data it appeared Title I was having some success, AIR reported that "while participating children may have been somewhat better off than they would have been without the program, no evidence could be found at the national level to support that hypothesis" (p. 8).

No data on noncognitive benefits were available beyond those from the 1969 Survey of Compensatory Education, summarized separately in the present document. AIR did conclude from these data, however, that "the differences favoring participants over nonparticipants were quite small, especially when considered in terms of participants' greater potential for improvement" (p. 7).

As a generalization, the study concluded that there was little evidence at the national level that the program had had any positive impact on eligible and participating children.

Program Management

The study found that most states and many local school districts had failed to implement their Title I programs in full compliance with existing regulations, guidelines, and program criteria. Extensive management problems identified by the Washington Research Project were discussed, and were found to be corroborated by examination of HEW Audit reports. The general areas of Title I mismanagement discussed included (1) use of funds for general aid, (2) use of funds to supplant rather than supplement other school funds, (3) use of funds for unnecessary construction and equipment, (4) failure to focus on high priority education needs, and (5) lack of community involvement. The frequency of management problems did not appear to be decreasing over the years. As of June 1971, 37 States and many of their LEAs were cited by HEW to be still in violation of Title I regulations, guidelines, and program criteria. On account of the level and extent of this noncompliance, AIR concluded that "what is actually evaluated in...this report is not Title I as described in regulations and program guidelines...[but] a program modeled on what was intended, but not in compliance with major regulations" (p. 65).

Effective Classroom Techniques

Results of a prior AIR study (Hawkrige et al, 1969) comparing successful and unsuccessful compensatory education projects were analyzed along with the results of five other studies. Six recurring factors characteristic of successful Title I projects were found to be: (a) clearly stated academic objectives or careful planning, (b) teacher training in program methods, (c) small group or individualized instruction, (d) directly relevant instruction, (e) high treatment intensity, and (f) active parental involvement.

In terms of its objective to describe factors associated with successful Title I projects, the study identified six components that "appear to be associated with successful programs, and their presence differentiates successful from unsuccessful projects." However, none of these components was found in all successful projects, and each component was found to be present in unsuccessful as well as successful projects.

Recommendations

Recommendations for Policy

Twenty-eight recommendations concerning the operation of Title I are presented in the executive summary of the report; twelve are concerned with administration and evaluation, eight with resource allocation, and eight with impact. The recommendations having to do with program impact are presented below.

1. Minimum standards and procedures should be established for achievement testing for both needs assessment and evaluation.
2. An incentive and reward system should be developed to encourage improved local and state evaluations and evaluation reports.
3. Although a higher proportion of resources are allocated at lower grade levels under the assumption that they will do the most good at that level, disadvantaged children at upper grade levels who have even greater educational needs should not be neglected.
4. Successful state and local projects should be regularly identified, described, and their descriptions should be disseminated to states and LEA's for use as replication models.
5. States and LEA's should be required to evaluate their programs annually in terms of some standardized cost-effectiveness procedure and they should be encouraged to use that information to eliminate unsuccessful and to replicate successful projects. USOE should provide them with accounting, benefit evaluation, and

cost-effectiveness analysis guidelines to encourage such analyses.

6. Unless and until a reliable relationship can be demonstrated between per-pupil expenditures and program outcomes, Title I services should not be denied to eligible children on the basis of arbitrarily established minimum per-pupil expenditure guidelines which may themselves defeat the development of cost-effective projects.
7. Rather than a minimum, a maximum per-pupil Title I expenditure should be established to eliminate expensive programs that deny services to many deserving children and that are often not cost-effective. Also, a maximum expenditure level may encourage attempts to develop more cost-effective projects.
8. A study should be undertaken to compare a set of successful projects with low per-pupil expenditures to a matched set of successful but high expenditure projects to determine ways of reducing costs while maintaining effectiveness.

Recommendations for Further Research

No recommendations were made.

THE COMPENSATORY READING STUDY

Sponsor/Monitor: OPBE/George Mayeske

Contractor/Project Director: Educational Testing Service/Donald Trismen;
subcontract to RMC Research Corporation/Paul Dienemann

Duration: 7/71-6/76 (RFP specified 7/71-1/74); OPBE Executive Summary,
9/76; (NIE contract: 7/75-6/76)

Budget: \$3,155,505

Abstract: This, the largest completed study of compensatory education, was undertaken to discover the principles of operation of compensatory reading programs in the field, including those funded by Title I as well as other sources. Its specific objectives were (1) to describe compensatory reading practices in grades 2, 4, and 6; (2) to relate the practices to skill acquisition and to costs; and (3) to describe practices found to be unusually effective. Over 50,000 students were tested in 222 schools nationwide during the 1972-73 school year, after responses to questionnaires were obtained from 731 schools in the spring of 1972. In-depth observations were made in 29 school districts in 1973-74. In addition to the central study, a cost-effectiveness analysis of compensatory reading programs in the schools was carried out and the data were made available to others, such as the International Reading Association, for secondary analyses.

Report Format: Over 2,100 pages of text, tables and figures in 13 separately bound volumes constitute the report of the study. There were basically four institutions that contributed to these reports: ETS, RMC, Indiana University, and USOE/OPBE, and their report styles varied substantially. The ETS reports were linear descriptions of the study's processes (e.g., questionnaire developments, data collection) and outcomes with only implicit references to the study's objectives; very few summary sections were included and very few conclusions and recommendations were offered. In contrast, each of the four RMC report volumes includes an executive summary and repeated references are made to the needs to draw broad conclusions and make recommendations on the basis of the data. The literature review by Indiana University faculty was a scholarly work that focused an apparently broad project on a narrow operational research question.

The 86-page Technical Summary (Mayeske, 1976) is a coherent attempt to describe the important results of the study as they relate to seven broad research questions. A 5-1/2 page summary of conclusions (pp. 60-65) gives the reader a good idea of the qualitative results obtained from the study.

References:

- [1] Mayeske, G. A study of compensatory reading programs: Technical summary. Washington, D.C.: USOE, OPBE, Elementary and Secondary Programs Division, September 1976.
- [2] Trismen, D.A., Waller, M. I., & Wilder, G. A descriptive and analytic study of compensatory reading programs: Final Report, Vol. I. Princeton, N.J.: Educational Testing Service, December 1975 and May 1976. Includes separately bound appendices and two separately bound addenda.
- [3] Trismen, D. A., Waller, M. I., & Wilder, G. A descriptive and analytic study of compensatory reading programs: Final Report, Vol. II. Princeton, N.J.: Educational Testing Service, 1976.
- [4] Dienemann, P. F., Flynn, D. L., & Al-Salam, N. A. (Vol.I); Flynn, D. L. (Vol. II); Flynn, D. L., Hass, A. E., & Al-Salam, N. A. (Vol. III); Al-Salam, N. A., & Flynn, D. L. (Vol. IV). An evaluation of alternative compensatory reading programs: Final report in four volumes. Bethesda, MD: RMC Research Corporation, September 1974 (Vol. I) and April 1976 (Vols. II, III, and IV). (Vol. I: Cost analysis; Vol. II: Model sensitivity; Vol. III: Cost-effectiveness analysis; Vol. IV: Cost analysis of summer programs.)
- [5] Farr, R., Tuinman, J., & Rowls, M. Reading achievement in the United States: Then and now. Bloomington, IN: Reading Program Center, Indiana University, August 1974.

Objectives of the Study

According to the RFP issued by USOE, the objectives of this study were to:

1. identify, describe, and evaluate the compensatory reading programs being offered to economically disadvantaged children;
2. ascertain their effects on reading skill attainment;
3. ascertain the relative effectiveness of different aspects of these efforts as indicators of educational systems' progress in teaching the disadvantaged to read.

In the several different facets of the study these objectives were further refined. The main objective of the initial phase of data collection was "to describe reading programs, compensatory and noncompensatory, in as much detail as possible in the sample schools" (Rubin et al, 1973, p. 5*).

The main objective of the literature review was to investigate the declining achievement score controversy: "Has the level of reading competency declined over the years? More specifically, this study was an attempt to determine whether a data base is even available to answer this question. Where are the data and does the available factual information allow an answer to the question posed?" (Farr et al, 1974, p. 3).

"The 1972-73 school year study [second phase of data collection] was designed to answer questions about the effectiveness of compensatory reading programs." Also, "data were gathered such that the initial differences between program participants and non-participants and among participants in different types of programs could be documented and fed into the analyses" (Trismen et al, 1975, p. 21). "As its name specifies, it was a descriptive study in the sense that none of the phenomena to be investigated were controlled in any way by the investigators" (Trismen et al, 1976, p. 120).

"The cost-effectiveness analysis attempted to answer two major questions. If functional relationships exist between the cost of program resources and

*Rubin, Donald, Trismen, D. A., Wilder, G., & Yates, A. A descriptive and analytic study of compensatory reading programs: Phase I report. Princeton, N.J.: Educational Testing Service, 1973.

student achievement gains, what is the nature of these relationships? Are certain compensatory reading programs more cost-effective (i.e., a greater return in achievement gain for each dollar spent) than others?" (Flynn et al, 1976, Vol. III, p. vi).

"The general purposes of the new visits [third phase of data collection] would be to conduct some systematic but not overly quantitative observation in classrooms...and to learn as much as possible about the schools and the reading programs that could help to explain the effectiveness data" (Trisman et al, 1976, p. 1).

Finally, the technical summary of the project prepared by OPBE states that the "study had three major objectives: to obtain a detailed description of compensatory reading practices throughout the nation in grades 2,4, and 6; to determine the possible relationships of such practices with student reading skill acquisition and their relative costs; to obtain a detailed description of those practices that were found to be associated with unusual effectiveness" (Mayeske, 1976, p. 1).

There was a subtle change between the objectives as stated in early 1971 and those stated in late 1976. In the initial version, there was to be "evaluation" and "ascertainment" and assessment of the educational system's "progress," whereas the final version focused on "detailed description." In 1971 the study was viewed in terms of a larger framework of educational knowledge production and utilization; in 1976 it was viewed more as a self-contained end product, a set of knowledge produced. However, the relative stability of the study's objectives is remarkable in view of the radical changes that occurred in the federal educational establishment during the project (e.g., the collapse of Belmont, the transfer of NCES control out of the Office of Education, and the creation of the National Institute of Education).

Research Design and Methodology

Design

Effectiveness of sampled compensatory reading programs was assessed in terms of comparison of spring posttest scores on a standardized reading test battery and on a reading attitude test between compensatory reading participants and nonparticipants. The primary method of comparison reported by

ETS (Trismen et al, 1975) was analysis of covariance of class means, using a quadratic function* of the fall pretest score as covariate. In 23 of 101 comparisons (various tests and grades), the test could not be validly interpreted because of significantly different regressions within the compensatory and noncompensatory groups. Of the remaining 78 comparisons, 41 were nonsignificant, 24 favored a noncompensatory group, 9 (all of which were attitude comparisons) favored a compensatory group, 4 were significantly interactive, favoring some types of compensatory groups and some types of noncompensatory groups. There were a number of other results noted from the analysis of covariance, such as the tendency for students to benefit from mixing of compensatory and noncompensatory instruction in the same classroom. However, two difficulties with this analysis, pointed out by RMC (Flynn, Hass, and Al-Salam, 1976), throw doubt on the validity of the analyses. First, the class means used for the analyses included students who took only the pretest or only the posttest, as well as students who took both**; and second, the variance of posttest scores was significantly less for students with high pretest scores than for those with low pretest scores. Referring to their cost-effectiveness analyses, which were based on the effectiveness results supplied by ETS, Flynn, Hass, and Al-Salam (1976) suggest that these problems "reduced the confidence that can be placed in the study results" and, in fact, "may have masked any meaningful [cost-effectiveness] relationships" (p. 109).

Mayeske (1976) reported five other types of comparisons based on the same data in order to evaluate the effectiveness of compensatory reading programs: (1) raw score differences, showing mean scores of compensatory and noncompensatory students closer together in the spring than in the preceding fall (an analysis that assumes the raw scores are an interval scale measure of achievement); (2) deviation scores, showing somewhat the same result (and based on the same assumption); (3) treatment-test score correlations, another variant of the same analysis; (4) comparison with standardization norms, which showed all fourth grade*** groups in the study improving (about equally)

* The quadratic form was suggested by RMC as a means of achieving a closer fit to the data, which in most cases suffered from a ceiling effect.

** The ETS report (Trismen et al, 1975) implies that this was not the case (pp. 46-52); however, the data shown in their Appendix B match the data that Flynn et al (1976) say suffer from this problem.

*** Fall and spring norms were not available for other grades.

from the fall to spring (an analysis that assumes the study's sample and the norming sample were drawn from essentially identical populations); and (5) raw gains analyses, another perspective of the raw scores analyses (see 1 above) that is otherwise the same analytical method. These five methods were considered by Trismen et al (1975); however, they argued (p. 13) that "the most appropriate analysis is...analysis of covariance."

In order to summarize differences among compensatory reading programs (beyond their source of funding, which was a major variable in the design of the study), ETS first factor analyzed and then clustered programs, in terms of questionnaire responses in phase I of the study. Eleven clusters were developed for schools that varied on factors such as emphasis on basic reading activities, use of audiovisual equipment, emphasis on supplementary reading activities, offering compensatory reading during time released from other school subjects, and "instructional flexibility--tendency not to select questionnaire options given" (Trismen et al, 1975, p. 14).

During phases III and IV of the project, in-depth onsite nonformal observations of particularly effective and particularly ineffective programs were carried out.

Costs were analyzed (by RMC) not in raw terms but in terms of standardized costs of resources allocated.

Data Utilized

Aside from the literature review, this study is characterized by its use of primary rather than secondary data bases. In phase I (1971-72 school year), questionnaires were administered by mail to principals and teachers in 731 representative schools, covering many attributes of reading programs, resources used, and types of students served. In phase II (1972-73 school year), MAT, STEP and COOP reading tests and a specially developed reading attitude test were administered in the fall and spring to 55,000 students in 266 schools by individuals employed by the project for that purpose. In phase III (1973-74 school year), observation schedules were filled out by observers from the project staff who visited 29 selected schools. In phase IV (1974-75 school year), five of the most effective schools were revisited for extensive observation, along with eight schools not visited in phase III.

Data Quality

The quality of the data in this study is substantially better than any of the other previous studies that purport to provide a description of compensatory education. Although we question some of the analyses of the data, there appear to be reasonably valid pretest and posttest reading achievement scores on over 40,000 representative students and extensive descriptions of the treatments provided in the classrooms those students attended. Although tests were administered by individuals from the sampled school districts, teachers did not administer tests to their own students, and selected observations by ETS staff showed no significant procedural deviations.

Findings

Funding

Costs were found to vary across the clusters of program types and across funding sources. The costs of all compensatory reading programs were about 50% higher (per pupil) than for other reading programs, and the costs of Title I programs were 85% more than the costs of noncompensatory reading programs in the same schools. There was little relationship observed between cost and effectiveness, which was interpreted as either pointing to spending less per program or indicating the need for a better measure of effectiveness. Summer programs were also analyzed and were found to be more costly (per pupil hour) than regular year programs, although they were not apparently more effective.

Other findings were that (1) there were no significant cost variations across grades 2, 4, and 6; (2) costs varied significantly between program clusters identified by ETS; and (3) cost variation was much greater between schools than within schools.

Regarding cost-effectiveness, "based on the measure of effectiveness developed by ETS for use in this study, no significant relationships were found between cost and effectiveness that were consistent for a variety of similar classes" (Flynn, Hass, and Al-Salam, 1976, p. 105). However, "the general weakness of the measure of effectiveness--that is, its inability to allow meaningful comparisons between classes with different pretest scores --

limits the confidence that can be placed in any conclusions" (ibid, p. 106).

In terms of funding sources, programs supported by other sources in addition to Title I support tended to serve more severely disadvantaged students than programs supported by Title I only.

Participant Characteristics

Although participant selection procedures were not examined directly, numerous comparisons of "preexisting differences" among students and schools were examined. The primary results for students were: (1) in "combined" classes, more boys than girls were compensatory reading participants at each grade level (in a ratio of about 5:4); (2) compensatory reading students were more likely to be "low SES" than noncompensatory reading students, except in schools using no Title I funds for compensatory reading instruction; (3) blacks and Spanish surnamed students received compensatory reading instruction relatively more frequently than did white students, especially in schools where compensatory reading took place in separate classes; (4) blacks and Spanish surnamed students tended more than white to attend schools in which compensatory reading and noncompensatory reading were taught in separate classes*, especially in non-Title I funded schools; (5) in grades 4 and 6, compensatory reading students averaged two months older than their schoolmates; (6) on standardized achievement tests in the fall, compensatory reading students averaged .9 population standard deviations behind noncompensatory reading students in the second grade, 1.0 population standard deviation behind in the fourth and sixth grades; and (7) second grade noncompensatory reading students had more positive attitudes toward reading than their compensatory reading schoolmates, but the relation was reversed in the fourth and sixth grades. Schools differed on the fall reading achievement overlap between their compensatory and noncompensatory reading students; schools with greater separation tended to (1) have more white students, (2) have fewer families on public assistance, (3) have less funds allocated for compensatory reading, and (4) have higher socioeconomic status student bodies.

*Trisman et al. (1975) suggest that this indicates "that such student assignments are being made at least in part on the basis of ethnicity, apart from reading level" (p. 75).

Project Characteristics

Comparison of program variation across grades and across schools showed that there was much greater variation between schools than within. Comparison of teachers showed that, compared to other teachers, compensatory reading teachers tended to have more positive attitudes about the academic capabilities of disadvantaged students. Numerous other relations are discussed, such as between type of program and socioeconomic status of the school population.

Four primary dimensions of service variation among compensatory reading programs were identified and investigated: instruction in separate or combined classes, instruction in summer or regular year classes, time spent in compensatory reading instruction, and instruction according to eleven different clusters of methods. More compensatory reading participants were classified as "combined" than "separate" (50% more in the second grade and about 20% more in the fourth and sixth grades). Of schools with regular year compensatory reading programs, a quarter also had summer programs. Summer programs differed from regular programs in that they (1) involved smaller groups of students, (2) were more flexible, (3) employed teachers with more subject-specific training, and (4) placed more emphasis both on "remediation" and "enrichment." Students' exposure to compensatory reading instruction (during the regular school year) averaged about 80 hours. Compensatory reading participants and nonparticipants spent about equal amounts of time in reading instruction; however, in the 4th and 6th grades about 25% more time was spent on reading instruction in schools with non-Title I compensatory reading programs than in schools with purely Title I compensatory reading programs. Across clusters of compensatory reading program types, there was significant variation in exposure time only in the second grade, and there it was primarily correlated (positively) with emphasis on supplementary reading activities. The first five principal components of variation in types of programs, which jointly accounted for 19% of the variance in 85 variables constructed from questionnaire responses, and which were used to describe school clusters, were "emphasis on basic reading activities," "use of audiovisual equipment," "emphasis on supplementary reading activities," "instructional flexibility," and "offering compensatory reading instruction during time released from other school subjects." Of these, "emphasis on supplementary reading activities" was found to be significantly greater at

the sixth grade and significantly less at the second grade. Numerous other, more complex results are presented in Trisman et al (1975) and Trisman et al (1976).

Program Impact

The analyses of achievement gains from compensatory reading programs constitute the bulk of the reports of the study. Because of several serious questions concerning the way in which impact of compensatory reading programs on reading achievement was assessed, there are no clearly valid results to summarize. However, in broad terms, the achievement gains of students in compensatory reading groups were not substantially different from the gains of other students. According to the Technical Summary,

the nature of the results tended to vary somewhat depending upon the subtest and grade level being examined and upon the analytic technique employed. All of the analyses supported the assertion that compensatory students tend not to fall further behind noncompensatory students during the academic year (the main exception was for a scale called Word Knowledge). (p. 61)

Finally, the literature review led to the conclusion that there is evidence of a slight decline in reading scores since 1965, following a forty-year steady rise of reading scores.

Attitude toward reading was assessed and found to be negatively correlated (about $-.4$) with achievement in the 4th and 6th grades in both the fall and spring and for both compensatory and noncompensatory reading students. Statistical tests for effectiveness of compensatory reading programs in increasing positive attitudes toward reading suffered from methodological problems similar to the cognitive benefit tests. However, there were no substantial effects: "Students who receive compensatory assistance in reading tended to become favorable toward themselves as readers and toward their reading activities to a degree that was equal to or greater than that of their unassisted peers" (Technical Summary, p. 62).

Program Management

No important findings were presented.

Effective Classroom Techniques

The methodological problems with the effectiveness measure mitigate the usefulness of results relating services and effectiveness. However, numerous results are discussed, such as (1) in grades 2 and 4 compensatory reading students gained more in classes where they were combined with noncompensatory reading students than when separate; and (2) gains were greater, in grades 2 and 4, in schools with high SES and high per-pupil expenditures. Visits to five especially effective schools in phase IV of the project (selected on the basis of both quantitative analyses and subjective reports of observers in phase III) yielded some informal results. In all five schools (which were demographically quite varied), "reading was accorded top priority"; "there was effective [reading-specific] educational leadership," "careful attention to basic skills" was observed, "there was a relative breadth of materials," and "there was evidence of cross-fertilization of ideas among teachers" (Trisman et al, 1976, pp. 102-103).

In-depth onsite nonformal observations of particularly effective and particularly ineffective programs were carried out during phases III and IV of the project. Of many results discussed, the most interesting is that some successful programs were characterized more by the presence of an overall emphasis on reading achievement focused by a charismatic school leader (e.g., principal) on a coherent, integrated plan. The presence of "star" teachers was not felt to be necessary or sufficient for a successful program (Trisman et al, 1976, pp. 102-104). Although it is not at all clear how generalizable the results of these observations are, they serve as an exploratory attempt to point directions for future research.

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The results mentioned above are only a very small subset of the total amount of information reported from the study. Likewise, the results reported in the ETS reports represent only a fraction of possible results that might be obtained from this apparently rich data base.

Recommendations

Recommendations for Policy

No recommendations were made.

Recommendations for Research

No recommendations were made.

THE PLANAR REPORTS

Sponsor: ASPE

Contractor/Project Director: The Planar Corporation/Peter Briggs

Duration: Approximately 6/72 to 10/73

Budget: \$200,000

Abstract: This study of the administration of Title I, and peripherally its student outcomes, was undertaken to clarify the many simultaneous and complex issues that came to the fore with the demise of Belmont. Documents of the Office of Education, interviews with staff members of the Office of Education, 26 of the State Annual Title I reports for FY 72, and questionnaire replies from SEA and LEA administrators served as a data base for the generation of numerous recommendations aimed at the improvement of Title I administration and operations. Recommendations were focused on actions that might be taken by the federal administration to solve Title I problems.

Report Format: There were several separate reports from this study, each addressing a particular issue or set or related issues. In each report, a particular thematic problem and recommendations for solution were analyzed. When objective data were included, it was in the context of relevance to an issue. One report, Reference [6], was entirely devoted to discussion of current Title I administrative practices and proposals for their reform.

References:

- [1] The Planar Corporation. ESEA Title I comparability reporting: analysis and recommendations. Submitted to USDHEW under contract HEW-OS-72-224, undated.
- [2] The Planar Corporation. Title I management analysis: interim report on guidelines. Submitted to DHEW, September 1972.
- [3] The Planar Corporation. Title I--Evaluation issues. October 1972.
- [4] The Planar Corporation. Title I reading and mathematics programs: A compilation and synthesis of available achievement, expenditure, and model project information. Submitted to DHEW/ASPE, August 1973.
- [5] Briggs, P. G. A perspective on change: The administration of Title I of the Elementary and Secondary Education Act. Submitted to DHEW/ASPE, October 1973.
- [6] The Planar Corporation. The Silken Purse: Legislative Recommendations for Title I of the Elementary and Secondary Education Act. Submitted to USDHEW under Contract HEW-OS-72-224, October 1973.

Objectives of the Study

The main objective of the study of administrative procedures was to find out about "the administration of Title I...at the state (SEA) and local (LEA) levels" and the ways in which it was affected by federal policies and procedures in the areas of guidance, technical assistance, monitoring, reporting, evaluation, and reinforcement. In particular, hypotheses were stated that (1) SEA performance in the four areas of parental involvement, evaluation, comparability reporting, and needs assessment would be related to LEA performance in these areas within the states, (2) performance in the four functional areas would be substantially intercorrelated, and (3) there would be a positive relationship across the four functional areas between the performance of SEAs and LEAs and the clarity of the federal regulations and guidelines. The main objective of the study of achievement was to "synthesize the available information about SEA and LEA Title I evaluation procedures, achievement results, and expenditure patterns...providing a 1973 sequel to the April, 1972 DHEW report entitled The Effectiveness of Compensatory Education, Summary and Review of Evidence." On the basis of these studies, legislative recommendations for Title I were to be formulated. During the project a series of short papers was prepared that analyzed particular issues and also considered recommendations for change of Title I operating procedures. These topic issues were evaluation, monitoring, target area selection, technical assistance, and development of guidelines.

Research Design and Methodology

Design

Observations were to be made of management performance at the federal and state levels supplemented by a mailed questionnaire to states and school districts. Achievement data were to be obtained from 1972 State Title I Annual Evaluation Reports and available school district evaluation reports for the years 1971 and 1972.

Data Utilized

Observation of federal management of the program was made on a daily

basis" (Reference [6], p. 7) within the Division of Compensatory Education whereas observations of state management of the program were based on one week site visits to 5 states and questionnaires returned from 10 states and 36 school districts. Achievement data were obtained from 14 State Title I evaluation reports for FY 1972 and from 33 LEA reports for FY 1971 and FY 1972.

Data Quality

Observational data related to management performance at the federal level was adequate for qualitative analysis that relied upon a method called "functional flow logic diagram" development. Questionnaire data related to management performance at the state level was not representative of the Title I program for three reasons: (1) it is implied (Reference [5], p. 14) that the 10 states and the 36 LEAs within them had recently been audited by the HEW Audit Agency; (2) more urban districts than rural districts were included in the sample; and (3) more rural than urban states were included in the sample. It was concluded that "In summary, the size and characteristics of our sample impose real limitations upon any generalizations from our analysis to the Title I program as a whole" (Reference [5], p. 14).

The 14 state Title I evaluation reports were selected for analysis of achievement from the 26 that were collected for FY 1972 because they satisfied the following four criteria:

1. A measure of central tendency was presented in grade-equivalent units;
2. Pre- and posttest scores as well as gain scores were presented;
3. The numbers of students pre- and posttested were included;
4. Data provided were for FY 72. (Reference [4], p.3)

While these criteria were very similar to those used by RMC (Gamel et al, 1975), the set of 12 states deemed adequate by RMC for inclusion in their report included only 3 of the 14 states deemed adequate by Planar. For the 3 states in common, the data presented in the two reports agree, approximately. In both reports data were presented in terms of grade-equivalent gains. The

results of the Planar analyses of SEA reports indicated substantial achievement gains. However, as stated in Reference [4], p. 4, "...the achievement results...are derived from only a few states and too often from only a small portion of the Title I students within those states."

The 33 LEA reports were selected for analysis of achievement from the 139 that were collected for FY1971 and FY1972 because they satisfied the following 7 criteria:

1. Data reported for standardized achievement tests in language arts, reading, and/or mathematics;
2. Data reported for projects conducted in FY71 or FY72;
3. Indication provided as to whether composite or subtest scores were offered;
4. Pre- and posttest scores provided for the same pupil population (i.e., same pre- and posttest "n");
5. Scores expressed in grade equivalents;
6. Dates of testing or time between testing provided; and
7. Pre- and posttest grade-equivalent scores aggregated by grade level.

(Reference [4], p. 42)

Analyses of these LEA reports also indicated substantial achievement gains. However, realizing the limited validity and generalizability of the results, the authors qualified their conclusions as follows:

In summary, our findings obviously are not meant to offer data on the achievement impact of Title I, but rather to examine the current conduct of local project evaluation and the difficulties which result from the frequent attempts to use local evaluations as the source for information on the relationship between Title I project activities and program objectives and the changes in pupil achievement levels. (Reference [4], p. 53)

Findings

Funding

Expenditures for basic skill instruction, as a percentage of total Title I budgets, are analyzed and lead to the conclusion that "there are a significant number of states that appear not to have responded to Federal exhortations to focus their Title I program in the basic skills" (Reference [4], p. 121).

They found a correlation of +.43 between per-pupil expenditures for reading and reading gains reported by states, but that was based on a sample of 13 states, and the authors stated that "our analyses were performed on limited data from an extremely small and nonrandom sample and are, therefore, in no way conclusive" (p. 127).

Participant Characteristics

No important findings were presented.

Project Characteristics

Based on the analyses of SEA and LEA data, it was concluded that (1) the majority of Title I students were enrolled in grades 1-6, and (2) the majority of these students were enrolled in reading programs.

Program Impact

While gains of greater than month-for-month were found for students in Title I for both mathematics and reading classrooms, these data were based on small and unrepresentative samples and the authors chose to use them strictly in examining Title I reporting and evaluation procedures. "Reduction in illiteracy rate" and "dropout prevention" were cited as "variables of considerable importance" that might be used to evaluate the effectiveness of Title I and for which data might be available at the local level.

Program Management

Findings based on document analyses and interviews were that (1) the regulations published by the Office of Education (OE) were inadequate for LEAs and virtually useless for SEAs; (2) technical assistance was too little and too uncoordinated; (3) the rules used by the Audit Agency to define non-compliance were derived from the law independent from published OE regulations; (4) OE was not cognizant of LEA reporting burdens; (5) evaluation was insufficient; and (6) enforcement was neither timely nor consistent. No corroborative data were included that might validate these findings. Relative to two of the three hypotheses stated as objectives for this data collection, (1) the correlations between SEA performance scores and the within-state averages of LEA performance scores were positive but not significant because the sample

size was only 10 SEAs; and (2) there was generally an inverse relation between performance scores and clarity of regulations. Although this was interpreted as an indication of autonomous local influence on Title I operation, it is really not interpretable because of lack of comparability of the four performance scales (parental involvement, evaluation, comparability reporting, and needs assessment). Not considered was the possibility that clarity of regulations might be a result of identification of serious problems. No results were presented in relation to the other hypothesis, that scores on the four performance scales would be unifactorial. However, we calculated the inter-correlations and found them to range from .04 to .38, clearly indicating that each scale added a substantial amount of unique variance.

Effective Classroom Techniques

Based on a review of past studies of exemplary Title I projects (where "success" is defined in terms of achievement in reading and mathematics) and including their own review of SEA and LEA reports, the authors report that "the conditions which seem to have been common to essentially all successful projects, and which are expressed in the proposed regulations, are:

- parental involvement,
- per-pupil funding,
- Title I money used to supplement local and state money,
- advance planning,
- stated program objectives,
- high instructional-adult/pupil ratio,
- individualization of instruction,
- instruction and materials tied to objectives in basic skills,
- training of instructional staff, both general and program-specific,
and
- assessment of pupil progress.

(Reference [4], pp. 56-57)

Recommendations

Recommendations for Policy

1. Title I (Part A) should remain a formula-grant program administered by Federal, state, and local officials. The program should focus

primarily on language arts and mathematics, with 50% of the total Title I budget being devoted to expenditures for instruction in these areas.

2. The legislation should include a discretionary incentive grant delivery system (Part C) which is administered by the states and based upon improved student achievement results in the formula-grant program (Part A).
3. The comparability and parental involvement requirements should be retained and refined. Concerning comparability reporting, OE should provide instructions, manuals, and worksheets to aid LEAs in maintenance of records and initial preparation of data.
4. Parent councils should be established for each Title I building and be permitted to use a small portion of their Title I budget to carry out their Title I responsibilities under the Act.
5. Local educational agencies participating in Title I should be required to establish a school-by-school fiscal, pupil and personnel data system in accordance with state and Federal specifications, the design and installation costs of which may be paid, at least in part, by Title I funds.
6. The states should be provided with monetary incentives (in the form of the possibility of increased administrative cost allotments) to encourage them to supply leadership and services to LEAs beyond those minimum requirements established by the legislation and regulations.
7. The Secretary of HEW should be the Federal official responsible for the administration of Title I.
8. The governor should be the state official responsible for the administration of Title I, where state law so permits.
9. Procedures should be established to assure that after the Title I audit hearing board renders a final opinion, such matters will be resolved systematically and expeditiously.
10. Information disseminated from OE ought to be contained in a directive system that would reflect an OE policy of compensatory education.

11. Each program evaluation coming from OE should treat equally both effectiveness and management issues.

The authors of the study clearly realized that their findings and recommendations would meet with criticism. They stated, for example: "Although the critics and advocates of the Federal role in Title I will dispute our findings and conclusions, we believe that the increased Federal auditing and monitoring of Title I in the past few years has significantly changed the administration of the program in unintended ways" (Reference [5], p. 9).

Recommendations for Further Research

Concerning data collection, attempts to "fix" the present system should be abandoned, there should be a moratorium of effort on current and new surveys, and a Commission should be established to improve data collection standards, working with NCES.

STATE ESEA TITLE I REPORTS: REVIEW
AND ANALYSIS OF PAST REPORTS, AND DEVELOPMENT
OF A MODEL REPORTING SYSTEM AND FORMAT

Sponsor/Monitor: OPBE/J. Anderson

Contractor/Project Directors: Research Management Corporation (RMC);
Gamel, N. N. and Tallmadge, G. K.

Duration: 6/30/74-10/31/75

Budget: \$246,284

Abstract: This study aimed at (1) summarizing the "overall impact of Title I programs to the extent possible from FY 69-74 State Title I Annual Evaluation Reports," and (2) designing "an improved reporting system which would increase the amount and usefulness of data contained in future State Reports." The research was carried out in four phases with the first two phases focused primarily on the first of these objectives and the third and fourth phases directed "toward the more important latter objective." Data bases included: (1) 1969-1974 State Annual Evaluation Reports; (2) DCE Annual Statistical Reports, 1966-1970; (3) in-person interviews held with national-level educational policymakers; (4) telephone interviews with 54 State Title I Coordinators; and (5) onsite visits to 9 State Education Agencies. Although the "variety of current state reporting practices made aggregation of any data across all states impossible," some findings were presented relating to (1) pupil participation, (2) resource allocation, (3) needs assessment, and (4) Parent Advisory Councils. In regard to impact, inconsistencies in the data reported from one year to the next coupled with "systematic biases inherent in grade-equivalent scores" were pointed out as serving to "highlight the futility of attempting to draw any inferences about the effects of Title I in general from data currently available in State Annual Evaluation Reports." A "model reporting system," designed to be responsive to the needs of educational policymakers and including "guidelines and requirements for conducting valid assessments of program impact," was described and proposed as an alternative to existing reporting procedures.

Report Format: The final project report is 229 pages long including 65 pages of appendices. Following an executive summary and a statement of the rationale for the study, there is a presentation of methods and problems in rating and extracting information from state reports, ending with the conclusion that the state reports can and should be improved. Then follows a discussion of the substantive results obtained from state reports, divided into five sections: participation, resource allocation, impact, needs assessment, and Parent Advisory Councils. Finally, there is a discussion of the evaluation and reporting model development process, including the contacts with SEAs, ending with a section on recommendations relating to those models.

References: Gamel, N. N., Tallmadge, G. K., Wood, C. T., & Binkley, J. L.
State ESEA Title I reports: Review and analysis of past reports, and development of a model reporting system and format. Mountain View, California.: RMC Research Corporation, 1975.

Objectives of the Study

Objectives of the study included "(a) determining the amount and type of evaluation information needed at each level of the program's administrative hierarchy, (b) assessing the ability and willingness of education agencies at each level to report the information desired by the higher levels, and (c) devising evaluation techniques and procedures which could be implemented in Title I settings and which would yield meaningful, valid, and useful data" (p. 4). To determine information needs and assess ability and willingness to report, two subgoals were established. First, the adequacy, validity, and policy relevance of the contents of State Annual Evaluation Reports for the years 1969-1974 were to be evaluated. The Work Statement prepared by USOE called for "evaluating these reports along several relevant dimensions, aggregating whatever valid and comparable data could be extracted from them, and examining any trends which might be found with respect to reporting practices and the content of reports."

Second, interviews were to be held with national- and state-level Title I policymakers. With regard to the design of an evaluation system, three subgoals were established. First, a "common metric" was to be selected to express student scores from different types of tests in order that these scores could be meaningfully aggregated. Second, a "common-metric scale" had to be defined so as to allow conversion of scores into a form that "was both easier to work with and easier to interpret." Third, forms had to be developed for recording, analyzing, and reporting data on participation, expenditures, personnel and training, Parent Advisory Councils, and impact.

Research Design and Methodology

Design

In their examination of state reports and other data sources, RMC used the Scale of Adequacy and Validity of Reported Data which had been developed by AIR. However, since the Work Statement for the RMC contract called for these reports to be rated as well on their readability and their policy relevance, RMC developed additional scales for these areas. The Readability Scale was designed to assess both the literary style and the thoroughness

of the technical descriptions. The Policy Relevance Scale was intended to reflect the current concerns of educational policymakers and legislators "in accordance with the assumption that one of the main purposes served by the state reporting system is to provide these individuals with the information they need for the effective execution of their responsibilities" (p. 33). To determine these individuals' priorities for information the system should provide, RMC therefore interviewed six members of the federal Title I staff, ten other officials in DHEW, and six legislators and legislative staff responsible for educational policymaking. Using the several scales, a "critical summary" of each State Annual Evaluation Report was prepared.

In order to determine the feasibility of implementing the evaluation and reporting practices that were recommended by RMC's analysis of interview data, telephone interviews were conducted with 54 State Title I coordinators. The topics covered in the interviews were determined both by practices already existing in the state, as evidenced in the state report, and by the Coordinator's responses to initial questions about Title I participation. "Because the content of the interviews varied widely, no attempt was made to quantify the states' responses" (p. 131).

After all the states had responded to the interviews, three preliminary evaluation and reporting models were developed. The models, which were identical except for their impact assessment methodology," were: "Model A, the Norm-referenced Model; Model B, the Control Group Model; and Model C, the Special Regression Model." The three models differed in the manner of estimation of how well the Title I students would have performed had Title I not been available. For the Norm-Referenced Model, comparison is with gains in the population at large; for the Control Group Model, comparison is with an equivalent (randomized) control group; and for the Special Regression Model, comparison is with gains in the nonequivalent "control" group of students not selected for Title I treatment in each classroom. The Control Group Model and the Special Regression Model had variations depending on whether standardized achievement tests or criterion- or objectives-referenced tests were used. For each model, reporting forms were developed for reports (1) from projects to LEAs, (2) from LEAs to SEAs, and (3) from SEAs to USOE. Implementation procedures for each model were also developed and were designed to provide "step-by-step guidance to evaluators at the project, LEA, and SEA levels."

It was expected by RMC that Model A would be "the most widely adoptable of all the models since it closely resembles commonly employed, current evaluation strategies." Model B was thought to be "substantially more difficult to implement than Model A because of the difficulty in assembling a suitable control group." Finally, RMC felt that "Model C, the Special Regression Model, should be regarded as the least desirable of the three models primarily because of the potential it has for misinterpretation." More precisely, RMC worried that in cases where "judgments will have to be made as to whether or not observed effects should be attributed to project impact... it is not clear that those individuals who will be called upon to make the judgments will have the technical expertise required to interpret the available evidence correctly or a sufficient degree of scientific detachment to choose an alternative explanation if attributing observed effects to project influences would place their district or state in a more favorable light" (p. 142).

For each of the models, the national distribution of achievement levels of students served as the "common metric." In the case of standardized achievement test scores this would amount to direct conversion of raw scores to scores reflecting status with respect to the national distribution of scores on the same test for students of the same age or grade. In order to convert scores from criterion- or objectives-referenced tests into this common-metric, an estimation technique was developed. The technique required that (1) scores be collected for treatment group children on a standardized achievement test as well as on the unstandardized instrument used for pre- and posttesting; (2) measures of the variability of scores obtained on both types of tests be calculated; and (3) the standard deviation of the nationally representative sample on the standardized test be obtained from the publisher's manual. From the ratio of the standard deviation of scores for the treatment group to the standard deviation of scores for the national sample and the assumption that this ratio would be the same for unstandardized scores, an estimate of performance of a national sample on the unstandardized test was estimated. Once this metric was developed, "a few additional steps were taken to convert the scores into a form which was both easier to work with and easier to interpret." The final common-metric scale "has the same range (1 to 99) and midpoint (50) as the percentile scale and has the additional statistically desirable characteristic of possessing equal interval scores." Values on this scale were termed "Normal Curve Equivalents" (NCEs).

Nine State Education Agencies, selected jointly by RMC and USOE on the basis of "geographic and demographic representation, state testing practices, strength of SEA leadership [determined from State Coordinators' interviews], quality of past State Reports, and the perceived receptiveness of the SEA toward the objectives of the study" (p. 150), were then visited by two RMC staff members for the purpose of critically discussing the three evaluation and reporting models. Refinements were made in the models as a result of these onsite visits. Although "most of the refinements made in the reporting system as a result of onsite visits to SEAs involved the clarification of ambiguous phrases, " two difficulties in model design were discovered during these visits and the Advisory Panel organized by RMC spent time working on these issues. The first difficulty arose from the differential use of the term "project" by different states. The second problem concerned the reluctance of several states to include information on Parent Advisory Councils and Personnel and Training in the reporting system. With regard to the former difficulty, the Panel recommended that there be a "change [in] the lowest level of the reporting system from the project level to the building level." In the case of the latter difficulty, "the Panel eventually agreed that no final decision should be made on these forms until all SEAs had had an opportunity to give their opinions on the issue."

Two other problems that arose during the onsite visits "could not be properly solved by revision of the models." These problems stemmed from the following model requirements: (1) that norm-referenced tests had to be administered only at times corresponding to "real normative data points"; and (2) that grade-equivalent scores were to be rejected as a suitable metric for assessing educational treatment effects. The first of these requirements, which had a "major impact on the implementation of Model A" and lesser impact on Models B and C, was perceived by states as problematic because (a) it would require projects to test at times other than those which might be convenient and (b) "if all projects using one test were to administer the test at the same time, the scoring service would be overloaded and many projects would not receive their test scores for several months or longer." (RMC did state that "discussions with test publishers reinforced this view [of the states].") The second requirement was perceived as a problem because, although "SEA personnel in several states expressed a willingness to move away from the use of grade-equivalent scores and indi-

cated that they anticipated no great difficulties in doing so...others felt that grade-equivalent scores were necessary to communicate with parents and the public...[and] were skeptical about public acceptance and understanding of percentiles on NCEs [Normal Curve Equivalents]." RMC noted that "this issue also requires further investigation."

Data Utilized

Following upon the earlier AIR study (Wargo et al, 1972), which examined State Annual Evaluation Reports for fiscal years 1969 and 1970, the RMC study examined state reports for the years 1971-1974 and DCE Annual Statistical Reports for the years 1966-1970 and synthesized findings with those from the earlier study.

In addition, RMC staff interviewed six members of the federal Title I staff, ten other officials in DHEW, and six legislators and legislative staff responsible for educational policymaking. 54 State Title I Coordinators were interviewed by telephone. Site visits were made to 9 selected SEAs to refine RMC's evaluation and reporting models.

Data Quality

Content analysis and analysis of data adequacy and validity showed that "there were serious discrepancies between the State Reports which precluded the aggregation of information across more than a few states at a time" (p. 17). The similarity of this finding to the results of AIR's study led RMC to conclude that between 1970 and 1974 "the states have not become significantly more consistent in terms of selecting similar population characteristics and evaluation techniques" (p. 18) and that "there were no identifiable trends toward more valid or consistent evaluation or reporting practices across the years" (p. 18).

Although the interviews with federal policymakers were unstructured and the method for their aggregation is not described, the authors of the study reported that clear and unambiguous conclusions could be drawn from them:

The highest priority in developing a model evaluation and reporting system should be given to the assessment of Title I impact on the participating students. Considerable effort should also be give to methods for

collecting and reporting information on Title I participation, resource allocation, and needs assessment. Then, to the extent possible, means should be developed for identifying possible relationships between program input variables and student incomes. (p. 6)

With regard to the study's objective of assessing SEAs' ability and willingness to report desired information, the analysis of state reports revealed gross deficiencies. RMC did reach the conclusion, however, that "there appears to be no theoretical barrier preventing State Title I Annual Evaluation Reports from including coverage of the desired content areas and presenting the desired information in a standardized format which would enable aggregation across states (p. 51). The basis for that conclusion was that at least a few of the Annual Reports were adequate.

Findings

The reporting of substantive evaluation findings was subordinate to the main objective of the study, to design, develop, and provide the rationale for a more systematic Title I evaluation and reporting scheme. However, analysis of state reports produced a number of states for which data were missing (ranging from 10 to 45 missing states).

Funding

Based on data that appeared "in a format common to several states, and those which permitted some comparison with the FY 69 and 70 data contained in Wargo et al (1972), "it was found that "there appears to be a trend toward increasing allocations and expenditures over the years" (p. 80). The mean per-pupil Title I expenditures for the states providing usable information on expenditures increased steadily from \$164 in FY 69 to \$291 in FY 74. However, the range was very wide. Average annual expenditures per pupil varied dramatically between states in all years, from lows of approximately \$60 to highs of approximately \$500. The percentage of expenditures targeted directly for instruction increased from 66% in FY 67 to 80% in FY 73 and 74, while those for support services and construction and equipment decreased. Expenditures for fixed charges "also appear to have increased compared to other expenditures," amounting to about 6% in FY 68-FY 70 and 7.5% in FY 72-FY 74. The breakdown of expenditures by categories was based on 7, 12, 10,

and 3 state reports for the years FY 71-FY 74, respectively.

Participant Characteristics

"The major problem associated with the aggregation of participation data was in dealing with duplicated versus unduplicated counts" (p. 59). Although unduplicated counts were more desirable, the variability in states' reporting styles and the fact that "in Wargo et al (1972) there was no distinction made between duplicated and unduplicated counts" forced RMC to point out that the "conclusions that can be drawn from participation data across the years 1969 through 1974 are limited." RMC did report that "there is considerable variation among states in the number [of pupils] served, proportion of nonpublic participation, percentages of students per school sessions and grade level, and the percentage of participants in each type of program." The number of students served by Title I appeared to decrease from FY 71 to FY 74, perhaps reflecting "an attempt by several states to concentrate more funds on smaller numbers of children" (p. 61). Across all four years, the modal grade level for participants was second grade, with 75% to 80% of participants being in the K-6 range, and with fewer participants in each subsequent grade. The authors pointed out that "there is considerable variation among states in number served, proportion of nonpublic participation, percentages of students per school session and grade level, and the percentage of participants in each program" (p. 74).

Project Characteristics

Percentages of participants for individual programs varied across states; "however; reading and language arts consistently serve large percentages of participants" (p. 64). In the period from FY 71 to FY 74, based on about a dozen state reports per year, the two largest categories of Title I participation and expenditures were for reading (English) and mathematics. About 65% of participants received reading instruction while 25% received mathematics instruction. About 45% of expenditures were for reading instruction and between 6% (FY71) and 20% (FY74) of expenditures were for mathematics instruction, according to the table on page 75. Among noninstructional services, food received less emphasis than any other of these services for the period 1972-1974. This was in sharp contrast to the period prior to 1972 wherein food consistently received a higher portion of Title I monies. Generally, the

percentage of expenditures allocated for all the noninstructional services decreased although expenditures for health (3%) and transportation (1%) remained fairly consistent across the years.

Program Impact

Teachers, Advisory Councils, counselors, and parents were those persons most often involved in assessing students' needs and standardized tests were by far the most often used assessment tools. Principal areas of need were: reading, mathematics, and language arts. However, despite the assessments of need that were reported, findings related to the impact of Title I on student achievement had to be based on data that "are not representative of the nation as a whole or even of a consistent group of states." Pretest scores showed that by third grade the children in Title I classes "were achieving scores below grade level" and by seventh grade the 1971 sample tested two years below grade level and the 1972, 1973, and 1974 samples tested almost three years below grade level" (p. 89). However, data presented from state reports in terms of average monthly gain scores showed that "the children were making a month gain or more for each month of instruction." In fact, Table 11 below shows that average monthly gains, compared to national norms, were clearly greater than the expected one month gain per month of instruction for adolescents, in the few states whose results yielded such data.

Table 11

Average Monthly Reading Gains, A Multiple of Expected Gains,
Based on Tables 37, 38, 39, and 40 of Gamel et al. (1975)

Grade Levels	Reading Gains			
	FY 71	FY 72	FY 73	FY 74
1-2	1.1	1.1	1.0	1.0
3-4	1.3	1.1	1.1	1.1
5-6	1.1	1.1	1.0	1.0
7-8	1.6	1.3	1.4	1.1
9-10	1.6	1.6	1.7	1.3
Number of states included:	3	4	3	5

However, the authors concluded that "it appears likely that actual [student] gains were smaller than those reported, and that the inconsistency between

status indications and gains resulted from systematic biases inherent in grace-equivalent scores and was really no more than an artifact of measurement" (p.100).

Program Management

No important findings were presented regarding overall Title I program management.

Effective Classroom Techniques

No important findings were presented.

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The outcome of this project goes beyond the publication of the final report. This project was part of a larger federal effort to help the states produce annual Title I evaluation reports that could be aggregated to satisfy the congressional mandate for an annual national evaluation report. As such, its primary purpose was to document the well-known need for such assistance and to involve the SEA's in the process of model development. "In most instances where hostility was encountered. . .there appeared to be a substantial increase in interest as it became clear to the state representatives that there would be extensive involvement of SEA and LEA personnel in developing the new system, that it would not involve a massive data collection instrument such as that employed by ESS and CPIR, and that there would be no immediate mandate to adopt a new and untried system" (p. 133).

The telephone interviews with State Title I Coordinators were considered by RMC to have "accomplished two major goals which are closely related to the successful development of the model evaluation and reporting system". These accomplishments were:

First, the State Title I Coordinators were informed about the purpose of our project and many of them were persuaded of its potential for improving evaluations and reporting of Title I programs. Rapport was established between the interviewers and many State Coordinators which should aid in the acceptance and application of the reporting models by the states.

Second, useful information was obtained about the feasibility of including in the reporting models certain types of data on student participation, expenditures, program

application of the new evaluation and reporting models if an intensive effort is made to persuade Title I Coordinators of the models' validity and usefulness. (p. 137-138, emphasis added)

Recommendations

Recommendations for Policy

The study as a whole was concerned with developing an evaluation and reporting system that would be "suitable for a nationwide implementation at local, district, state, and federal levels" and that would "satisfy many, if not most of the evaluation needs of the Title I program at all levels". A model reporting system was described and proposed as an alternative to existing reporting procedures.

Recommendations for Further Research

RMC recommended further investigation of the feasibility of states moving away from the use of grade-equivalent scores in assessing program impact.

PATTERNS IN ESEA TITLE I READING ACHIEVEMENT

Sponsor/Monitor: ASE/Elizabeth Reisner

Contractor/Project Directors: Stanford Research Institute (SRI); Educational Policy Research Center; Thomas, T. C. and Pelavin, S. H.

Duration: 7/74-3/76

Budget: \$130,000

Abstract: This study aimed to describe and to interpret the reading achievement rates of Title I participants. The data source consisted of 283 State Title I Annual Evaluation Reports for the years 1969-1974, supplemented by information from the State Title I offices. Average monthly gains in terms of grade-equivalent scores were calculated by year and grade from the pretest and posttest data included in the State reports. "Rigorous criteria" were not used to "severely limit the amount of usable data" since it was felt that "the quality of some of the early [State] reports was sufficient for our purposes and that in general the quality of the reports has improved over the last few years." Examination of reported monthly gains in reading achievement of Title I participants showed that these gains are, on the average, "consistently near 1.1 month gain for each month in Title I across grades and years (1971-1974)." However, evidence was presented that indicated that "the expected achievement pattern of the disadvantaged student changes substantially when the summer is taken into consideration." The study concluded that "Title I is a success under the currently accepted single school year criterion" but it did point out that a "multiyear focus for Title I evaluations" is necessary for the assessment of "long-term increases in reading achievement."

Report Format: The final report is 110 pages long including four appendices totaling 65 pages. The first appendix presents state-by-state data. The second appendix contains a short review (with bibliography) of studies of achievement patterns of disadvantaged students during the summer recess. The third and fourth appendices present test publisher norm patterns and preliminary attempts at assessing the overall long-term effects of Title I from statewide testing programs.

Reference: Thomas, T. C., & Pelavin, S. H. Patterns in ESEA Title I reading achievement. Menlo Park, California: Stanford Research Institute, March 1976.

Objectives of the Study

The two main objectives of the study were: (1) to determine "the reading achievement rates of students who have participated in Title I compensatory education program" and (2) to identify "any discernible trends in these rates" on the basis of data provided in State Title I Annual Evaluation Reports. In order to accomplish these objectives, two subobjectives had to be addressed. These subobjectives were (1) to select or develop a "common metric" for use in aggregating reading achievement test data and (2) to develop one or more procedures that would allow generalizations to be made both within and across the states.

Research Design and Methodology

Design

State Title I Annual Evaluation Reports for the years 1969-1974 were reviewed, supplemented by information from the State Title I offices. Average monthly gains in terms of grade-equivalent scores were calculated by year and grade from the pretest and posttest data included in the State reports. "Rigorous criteria" were not used to "severely limit the amount of usable data" since it was felt that "the quality of some of the early [State] reports was sufficient for our purposes and that in general the quality of the reports has improved over the last few years."

SRI selected as their common metric for use in aggregating reading achievement test data the average monthly gain in grade-equivalent units. To make it possible to make valid generalizations within and across states, they defined four samples of state reports using different criteria for each (generally, criteria differed with respect to the quality required of a state report for its inclusion in the sample). The procedures used in calculating average monthly gains differed depending on the format of the information that was presented in a particular state report and supplementary information to allow calculation of these gain scores had to be requested from some states. In some cases, for example, state reports only contained gains by program while in other the data were averaged across districts but not across different tests (the reverse of this format was also encountered) or were pre-

sented as "ranges of gain by grade."

The procedures used to define different groupings of state reports produced four samples: (1) an Initial Sample; (2) an Expanded Sample; (3) a Quality Sample; and (4) a Longitudinal Sample. The Initial Sample included for each year "only the states that reported results by grade level and whose results were based on a sample of at least 1% of the students eligible for Title I." ("The reports included in an analysis [of the Initial Sample] were based on the results of test administered to over 680,000 students in 1971-72, 895,000 students in 1972-73, and almost one million students in 1973-74.") The Expanded Sample, which was an expansion of the Initial Sample, "was formed by including (rather than excluding, as had previously been done) the states that reported gains in reading achievement only as averages across grades." ("This procedure allowed us to increase our initial sample by one state for 1968-69 and 1969-70, by five states for 1970-71, 1971-72, and 1972-73, and by six states for 1973-74.") Two qualifications that were presented regarding how the average monthly gains based on these two samples of state reports should be interpreted were that: (1) for 1968-69 and 1969-70, these gains "are based on very few states and...the samples...do not necessarily include the same states"; and (2) "the sample sizes for grades 9 through 12 are based on a small number of states, and the same data of some states were based on only two or three classes."

The Quality and Longitudinal Samples represented attempts to "improve the quality of the data being analyzed." The Quality Sample included "only states whose reports were based on data from at least 40% of the participating Title I students or from a random sample of these students." The Longitudinal Sample included "only states appearing in the Initial Sample for the four years 1970-71 through 1973-74." By restricting these samples to state reports that provided strong data bases, "we were more confident that the sample would be representative of Title I students for the states included" and would allow for the analysis of "trends over time." The greater selectivity used in identifying these samples resulted in their being smaller than either the Initial or Expanded Samples. For example, while the largest numbers of states included in the Initial and Quality Samples for any grade and year were 27 and 33 respectively, the largest numbers included in the Quality and Longitudinal Samples were only 16 and 13 respectively. Moreover, formal analyses involving

data from the Quality and Longitudinal Samples were limited to the four years beginning with 1970-71 and to grades 2 through 8 since, as was pointed out in the final report, these were the cases "where the sample sizes remain tolerable." The data aggregated from all four samples were essentially identical.

Results from individual states were aggregated using weights proportional to the states' populations. No attempt was made to extrapolate results to include states not providing usable data, because analyses showed significant state effects. Thus, the results are nationally representative only in a broad sense.

Note is taken in this report of the nearly concurrent study of state Title I reports undertaken by RMC (Gamel et al, 1975). Since RMC judged the quality of these reports on the basis of whether or not unqualified conclusions about the success of Title I could be drawn from them, the authors pointed out that "RMC's criteria for acceptability of SEA reports were much more stringent than ours." The authors also noted that "with such small samples we can readily see why RMC stated that ". . .the data presented. . .do not constitute an adequate basis for assessing the national impact of the Title I program" (Gamel et al. 1975, p. 101)" (p. 22).

Data Utilized

The data base utilized in the study consisted of State Title I Annual Evaluation Reports for the six school years 1968-69, 1969-70, 1970-71, 1971-72, 1972-73, and 1973-74.

From the 50 states, our potential data sources were 300 reports (six annual reports from each of the 50 states). We were able to obtain 283 of the 300 reports: 45 for 1968-69; 41 for 1969-70; 50 for 1970-71; 49 for 1971-72; 49 for 1972-73; and 49 for 1973-74. (p. 6)

The data used from these reports were either average monthly gains in reading or some measure that could be translated into average monthly gains. In a few cases where a small amount of supplementary information would make it possible to calculate average monthly gains for a state, the project staff contacted the state Title I office directly to obtain the information.

Two supplementary data sources were used in attempts "to understand

what these reported average monthly gains imply in terms of the 'success' of Title I in increasing reading achievement." They were: (1) twelve "summer loss" research studies, and (2) state testing data from California, Michigan, and New York that "report scores by some years and grade levels for the entire state."

Data Quality

After reviewing the available state reports, SRI pointed out that "for our purposes, the two major problems with the reports are that the samples of tested students in many states are small and not representative of the Title I participants" and that "tests, metrics, and times of testing vary within states and between years." Nevertheless, it was stated that "the quality of some of the [early] State reports was sufficient for our purposes and that in general the quality of the reports has improved over the last few years."

Findings

Funding

No important findings were presented.

Participant Characteristics

No important findings were presented.

Project Characteristics

No important findings were presented.

Program Impact

Table 12 summarizes the study's primary results.

A significant portion of the report is devoted to a consideration of the problems in establishing the meaningfulness of these results for evaluation of the success of Title I in the area of reading. The finding, based mainly on the problems associated with summer loss of achievement by disadvantaged children, is that these results are not at all conclusive.

Table 12

Average Monthly Gains in the Initial Sample, by Grade and Year*

		Grade Level			
		1-3	4-6	7-9	10-12
Year	68-69 and 69-70	.92	1.00	1.03	1.18**
	70-71 and 71-72	1.02	1.03	1.18	1.47**
	72-73 and 73-74	1.08	1.07	1.22	1.22

*In the report, data were presented to the nearest tenth, for each of twelve grade levels and six years. Each table entry here is an unweighted average of six figures in the original report.

**Results for grades 10-12 before 1972-73 are much less reliable than for other grades and years.

Analyses of the state reports showed that reported average monthly gains for Title I participants were close to 1.1. Data for grades 2 through 8 for the school years 1970-71 through 1973-74 ("the data in which we have the most confidence") showed that "at least 90% of the reported state level average monthly gains equal or exceed 1.0 for each of the four samples." These findings were found to be consistent with those reported by RMC for 1973-74. The authors noted that

additionally, the gains have been quite stable over the years 1970-71 through 1973-74, and we have no reason to expect the pattern to change in the near future. This stability also appears to hold within states across years. The results have remained fairly stable as the states increased the number of Title I participants tested. (p. 39)

In answering the question as to whether Title I was successful in increasing reading achievement, therefore, these data, when measured against the "unofficial but widely accepted standard" of a month-for-month gain, strongly indicated that "Title I is now, on the average, a national success" (p. 40). This finding was also supported by the fact that the reported rate of gain of 1.1 of Title I participants exceeded the .7 month rate projected for the disadvantaged student without Title I, representing "more than a 50% increase in achievement rate."

The authors strongly cautioned against acceptance of these findings at face value, however. Consideration of research studies that suggested that "the disadvantaged student has no gain or a one-month loss over the summer," together with the examination of available state testing data for low-percentile students (those most likely to be in Title I programs) that revealed no evidence of positive impact of Title I participation (as would be expected on the basis of steady month-for-month gains) led to the conclusion that:

Knowledge of whether the impact of Title I persists, both over the summer and throughout years without Title I, requires longitudinal achievement data by student. Such data are needed for both periods of Title I participation and periods without Title I. Therefore, evaluations of ESEA Title I must move from a within-school-year focus to a multiyear focus. Without multi-year evaluations, we cannot conclusively assess the impact of Title I. (p. 42)

Program Management

No important findings were presented.

Effective Classroom Techniques

No important findings were presented.

Recommendations

Recommendations for Policy

No recommendations were made.

Recommendations for Further Research

The single recommendation that was made concerned the need for longitudinal study of Title I and was grounded in (1) the apparent contradiction between the state-reported gains of students during the school year and the absence of evidence from state testing data that Title I was having any effect on low-percentile students and (2) the suggestion made by existing research that disadvantaged students, including Title I participants, may actually lose as much as one month of achievement during the summer recess from school.

THE GAO REPORT

Sponsor: U. S. General/USGAO

Duration: Approximately 18-24 months; report published 12/75

Budget: Approximately \$200,000 (estimate made by GAO on the basis of customary expenditure for this type of study)

Abstract: This study was undertaken to inform the Congress of the effectiveness of Title I reading projects and to suggest needed program improvements to USOE. Its objectives were (1) to determine Title I effectiveness in meeting students' reading needs and (2) to assess the quality of Title I administration. Reviews were made of Title I operations at USOE headquarters, 7 HEW regional offices, 15 LEAs in 14 States, and the SEAs in those States. Legislation, federal regulations, USOE policies, project applications, reports, and other Title I-related documents were examined. Also, interviews were conducted with parents, teachers, and officials associated with projects, and some classroom visits were made to observe reading activities. Findings were largely negative and HEW concurred in all GAO recommendations for improvement.

Report Format: The report is 48 pages long. Recommendations and major findings are stated at the beginning (on perforated sheets) so as to facilitate both consideration of the policy-related issues and their dissemination. An appendix contains USOE's prepublication comments.

References: U.S. General Accounting Office. Report to the Congress by the Comptroller General of the United States: Assessment of reading activities funded under the federal program of aid for educationally deprived children. Office of Education, Department of Health, Education, and Welfare, Report Number MWD-76-54. Washington, D.C.: U.S. General Accounting Office, December 1975.

Objectives of the Study

As reflected in the major sections of the USGAO report, the objectives of this study were to:

1. ascertain the effectiveness of Title I reading projects and the quality of efforts made to monitor and evaluate these projects;
2. ascertain the adequacy of procedures used to assess educational needs of students;
3. evaluate the procedures involved in the selection and retention of students in these projects;
4. assess the level of concentration of Title I services on educationally deprived children and the adequacy of inservice training provided to teachers and aides;
5. assess the effectiveness of dissemination of information from exemplary projects; and
6. ascertain the level of parental involvement in Title I activities.

Research Design and Methodology

Design

Along with the review of program-related documents, this study relied upon data that were available in 15 LEAs and on interviews conducted with "parents and teachers and officials [in USOE headquarters, 7 HEW regions, and 14 SEAs] having responsibilities for the program" (p.5). The LEAs reviewed "were selected judgmentally" to "give reasonable geographical coverage of the Nation and reasonable coverage of both urban and rural projects with different ethnic characteristics" (ibid). Findings from these reviews were, therefore, not generalized to all Title I projects. No further explanation was given of how the selection of LEAs that were reviewed was made.

Data Utilized

Assessments of students' reading achievement had to be based upon achievement test data that were available in 14 or fewer of the LEAs since the data required by USGAO were, in some cases, either not available or of such poor quality that they were not usable. Student reading achievement records were randomly selected from all but three LEAs; in these districts, due to the high quality of student records, all Title I student reading records were examined. In all, 1,481 student records from 59 schools were used to assess the effectiveness of Title I reading programs. Interview data and information extracted from program-related documents were used to assess the other aspects of Title I administration referred to in the study's objectives.

Data Quality

Except for those comparisons made on the basis of students' grade-equivalent scores in reading, the report presented selected information on what "one State" did or was doing as compared to "another State," what "three LEAs" reported, and so on. No indication was given of why data were not reported from all 15 LEAs, 14 SEAs, and 7 HEW regional offices in addressing each of the study's objectives. Without this information and without information concerning the selection criteria for (1) LEAs and (2) respondents within LEAs, SEAs, regional offices, and OE headquarters, it is not possible to determine how the findings that were presented might have been biased by these missing data.

Comparisons of the rate of student achievement in Title I reading classes (e.g., of the students enrolled in Title I reading classes during the 1972-73 school year, how many made greater than one year's gain?) based on grade-equivalent scores of students in the 14 LEAs suffered from two major weaknesses. First, as USGAO noted in a footnote, "Caution should be taken in comparing the achievement data between LEAs because the time intervals among the tests have varied considerably" (p. 8). Nevertheless, the grade-equivalent data were aggregated across LEAs in order to assess students' rate of gain. Thus, gain-scores were based on different intervals between pre- and posttests, both for the 500 students reported to be gaining at a rate of greater than 1 year per year in school and for the 883 students reported to be gaining less than 1 year per year in school. Since the range of testing intervals is not discussed, it is not possible to assess the direction in which these comparisons might have been biased.

The second problem concerns the tests used in pre- and posttesting. It is not known from the report whether the tests used in pre- and posttesting were the same or whether they were comparable within and between LEAs. Since the only data presented in the report are the gain scores themselves, it is possible that USGAO simply used the scores provided by LEAs without further examination of the tests used. Without some assurances that the tests were comparable to one another and that the differences in pretest/posttest intervals were somehow adjusted for in computing gain-scores, the reader has inadequate basis for accepting GAO's finding that "most Title I students were (1) not reading at levels sufficient for them to begin to close the gap between their reading level and the national norm, (2) widening their gap in reading levels, or (3) not retaining Title I gains after they left" (p. 15). The reader tends to be even more skeptical of this finding after having read USGAO's chief criticisms of LEA evaluation data, presented three pages earlier in the report:

The LEAs' reading evaluations generally lacked uniformity and often were incomplete because
 --different test series were used,
 --the frequency of giving reading achievement tests differed,
 and
 --longitudinal evaluations were seldom made.
 (p. 12; emphasis added)

It would appear that awareness of these problems did not cause USGAO to be more cautious in analyzing evaluation data from the sampled 15 LEAs.

The number and positions of the persons interviewed were not presented in the report, nor were the numbers of different types of documents reviewed. In addition, no indication of the criteria used to select respondents and documents was provided. Thus, it is difficult to interpret statements such as "At many LEAs, parents of Title I children, teachers, private school officials, or representatives of community organizations who knew the needs of these children were not involved or were involved only to a limited extent in the assessments" (p. 18).

This USGAO report is seriously deficient in meeting fundamental scientific standards. It is not that the methodology employed was insufficient or misguided; it may, in fact, have been more rigorous than is explained in the report. The problem is that the reader cannot tell; and because there are serious gaps in the information provided, the findings and recommendations that are presented should be regarded with extreme caution.

FindingsFunding

No important findings were presented.

Participant Characteristics

- Some local agencies did not make and adequately document comprehensive assessments of the educationally deprived children's needs.
- Generally the local agencies' bases for selecting program participants were not adequately documented, some were not serving the most educationally deprived students, and several were not retaining students in the program until they reached grade level. (pp. ii-iv) Also, the study reported that "almost all of the local agencies needed to increase parental involvement in their projects" (ibid).

Project Characteristics

- Some local agencies could have improved their Title I reading services by concentrating them on educationally deprived children or by providing adequate inservice training to Title I teachers and aides. (pp. ii-iv)

Also, the study reported that "almost all of the local agencies needed to increase parental involvement in their projects" (ibid).

Program Impact

- Although each local agency reviewed reported some reading improvement for the students sampled, available achievement data showed that most students were (1) not reading at levels sufficient for them to begin to close the gap between their reading level and the national norm, (2) widening the gap in their reading levels, or (3) not retaining gains made in Title I after they left the program.
- Fifty percent of the students' annual reading achievement rates were higher during participation in the program than before. Available data for making this determination was limited, however. (pp. ii-iv)

Program Management

No important findings were presented.

Effective Classroom Techniques

No important findings were presented.

Recommendations

Recommendations for Policy

It is surprising that, in spite of the problems with the project design and data, USGAO was able to make eight unqualified recommendations for program improvement to USOE which USOE agreed were needed. These recommendations are listed below as they appear on pages i-ii of the "tear sheets" at the front of the report:

- Include in the uniform reporting system to be implemented pursuant to the Education Amendments of 1974 information on (1) how many students are achieving at, below, and above grade level and (2) whether former Title I students are retaining the gains made while in the program.
- Encourage State agencies to strengthen their monitoring of Title I projects.
- Give special attention to any problems local agencies have in making and documenting needs assessments.
- Emphasize to State agencies the need for local agencies to document their bases for selecting program participants.
- Clarify its policy regarding serving the most educationally deprived as it relates to selection and retention of student participants.
- Work closer with State and local agencies to help insure that program services are concentrated on educationally deprived children and that quality training and technical assistance are provided to program personnel.
- Develop a plan for disseminating information on exemplary activities and assist State and local agencies in establishing or improving their dissemination systems by giving them additional guidance and training.
- Continue to encourage State agencies to monitor the parental involvement efforts of local agencies and, where necessary, assist them in increasing involvement.

While these recommendations for improvements are general and tend to suggest changes that any concerned educators might support, it is nevertheless disturbing to note that no mention is made of the limitations of the data on which they were based. It is also interesting that USOE made no comments and asked no questions about the methodology employed in carrying out the study, although they had the opportunity to both comment and question prior to the

publication of the report. (Appendix I to the report presents all of USOE's prepublication comments.)

Recommendations for Further Research

No recommendations were made.

EVALUATION OF THE FIELD TEST OF PROJECT INFORMATION PACKAGES

Sponsor/Monitor: OPBE/Ann Bezdek

Contractor/Project Director: Stanford Research Institute/Marian S. Stearns;
subcontracted to RMC Research Corporation/Donald P. Horst

Duration: 7/74-4/77

Budget: \$1,680,491

Abstract: This study is a two-year evaluation of the implementation of the first six Project Information Packages (PIPs) at seventeen tryout sites in grades 1 through 9. Its specific objectives were to (1) describe the project adoption and installation processes by documenting the discrepancies in each of the 17 sites from RMC expectations and PIP specifications, (2) determine the soundness of the principles and assumptions upon which the PIPs were developed, (3) identify implementation problems, (4) make recommendations about how the package might be revised in the light of the problems identified, (5) investigate the impact of the projects on student achievement, (6) explain differences from expected outcomes, and (7) explore the participating school districts' intentions for continuing the projects after the end of Section 306 funding. Some 3,500 students from 19 sites were tested in the 1975-76 school year, after some 2,100 questionnaires had been administered in the 1974-75 school year. In-depth observations of all sites were made several times during both years. Findings of the project were largely negative.

Report Format: Two volumes (450 total pages) of text, tables, and appendices constitute the final report of the study. The first volume summarizes the creation of the PIPs and the attempt to implement them in the field. It concentrates on evaluating the fidelity of PIP replication rather than the effect of PIPs on student achievement. Its recommendations are general in nature and are based on data which are presented in the second volume. Attached appendices analyze staff and student attitudes about the PIPs in terms of marginal distributions. The second volume is much more detailed and focuses its attention on the testing of the basic hypothesis of the study, that the PIP approach fosters achievement growth as measured by the MAT. It utilizes two alternative methods of measuring growth: (1) the traditional true-score or deviation from expected posttest method, and (2) the deviation of student scores from the equipercentile gain curve. Much of the technical discussion in the second volume is identical to a separate Research Memorandum, noted below.

References:

- [1] Stearns, Marian S. Evaluation of the field test of Project Information Packages: Volume I, summary report. Menlo Park, Calif.: Stanford Research Institute, April 1977.

- [2] Norwood, Charles A. Evaluation of the field test of Project Information Packages: Volume II, technical report. Menlo Park, Calif.: Stanford Research Institute, December 1976.
- [3] Kaskowitz, David H., and Norwood, Charles R. A study of the norm-referenced procedure for evaluating project effectiveness as applied in the evaluation of Project Information Packages. Menlo Park, Calif.: Stanford Research Institute, January 1977.

Objectives of the Study

As stated in the first volume, the objectives of the study were to determine whether the PIP model in general, and each of the six original PIPs in particular, constituted a feasible method of spreading successful educational projects beyond the sites at which they were developed. The success of the PIPs would be established if people at the tryout sites were able, with little outside assistance, to produce the original program in their own schools and to demonstrate improvements in student test scores comparable to those reported by the original projects. An alternative criterion for establishing PIP success was that any revisions to the PIPs that were also associated with improved student achievement could be described and packaged (Stearns, p. 19).

Specific objectives of the study were to:

- describe the project adoption and installation processes,
- determine the soundness of the various PIP strategies,
- identify implementation problems,
- recommend changes in the PIPs,
- investigate the effect of PIPs on student achievement,
- explain deviations from expected outcomes, and
- explore the possibilities for continuing the projects under local funding.

USOE required answers to the following specific questions:

- Are LEAs motivated to adopt a packaged program, and to select a program that is appropriate for replication?
- Can the exemplary programs be replicated in the new sites by means of the PIPs?
- For what functions and in what amount is technical assistance required?
- Are the programs implemented by means of the PIPs as effective in improving student achievement as the original exemplary programs?
- What are the effects of the programs on student attitudes?
- Are the PIP projects acceptable to LEA staff and to the teachers, students, parents, and the community?

- When problems and failure to replicate are due to faults in the current packages, can they be revised to permit implementation with fidelity?
- If considerable assistance is required, can the packages be made more autonomous?

Research Design and Methodology

Design

The first year of the study was intended to describe the PIP implementation process via onsite observations and interviews, with emphasis on a comparison of what was anticipated in the PIP concept and specified in the PIPs with what actually occurred in the sites (Stearns, p. 23). No controls were used; rather, the projects receiving the PIPs were compared to the exemplary projects upon which the PIPs were based.

Three PIPs over seven sites were used in first grade classrooms; two PIPs over seven sites were used in second grade classrooms; three PIPs over 10 sites were used in third grade classrooms; 3 PIPs over 10 sites were used in fourth grade classrooms; 2 PIPs over 8 sites were used in fifth grade classrooms; 3 PIPs over 8 sites were used in sixth grade classrooms; 2 PIPs over 3 sites were used in seventh grade classrooms; 3 PIPs over 7 sites were used in eighth grade classrooms; and 1 PIP was used in 2 sites in ninth grade classrooms.

Based on the experiences of Stanford Research Institute's site visitors, a typology of PIP teacher activities was constructed, according to the following model (Stearns, p. 34):

	<u>[Specified in PIP]</u>	<u>Not Specified</u>	<u>Ambiguous</u>	<u>Free to Vary</u>
Diagnosis of the individual student's needs				
Prescription of materials designed to meet the diagnosed need				
Presentation of the lesson/skill				
Guided practice; independent study				
Assessment of practice (monitoring, tutoring)				
Reinforcement activities				
Motivating technique				

Using this design matrix, Stanford Research Institute site visitors selected (on the basis of previous observations) a subset of classes that varied in terms of the degree to which PIP-specified teacher activities were implemented. Teachers were also rated on their "responsiveness," that is, their ability to anticipate student needs and respond to learning needs in an appropriate and timely fashion (Stearns, p. 35).

The curriculum materials actually used in the daily lesson plans of students in the observation sample between January and April, 1976 were tallied and compared to the PIP specifications of curriculum materials (Stearns, p. 36).

The skills required to answer each item on the Metropolitan Achievement Test (MAT) were specified and contrasted to the content of the curriculum materials used by the students in the PIP projects as well as to the PIP curriculum materials' specifications themselves (Stearns, p. 36).

In the second volume, the initial design was further specified as a "black-box" model of evaluation, in which it was predicted that the replicating projects would achieve the same criterion (relative to educationally significant growth) that the originating sites achieved (Norwood, p. 22) during the second year of PIP implementation. Student growth, on a Fall-Spring pretest-posttest basis, was to be measured by changes in the norm-referenced, standardized MAT. Significant growth was defined as being one-third of a standard deviation above normal growth. The authors presented detailed technical and practical reasons why this design is only minimally viable for evaluating the PIPs, not the least of which was that the originating projects did not consistently demonstrate such success. On a grade-within PIP-across site basis, 19 of the 22 subsets of students showed normal growth on Total Reading. On Total Math, all 18 subsets of students showed only normal growth according to the stated criterion (Norwood, p. 70).

The failure of the norm-referenced analysis to show educationally significant achievement growth among the PIP students led the authors to question the criterion in regard to what they call the equal percentile assumption--that is, that any given student would be expected, in the absence of positive educational influences, to score at the same national percentile on posttest as on pretest. A major rationale for this change was that the PIP students, given their educational disadvantage, could very well lose percentile ground over time. The equal percentile assumption would then cause one to

overestimate the amount of growth on standardized tests required to define educationally significant growth (Norwood, p. 101). In order to test this assumption, grade-within PIP-across site analyses were presented, contrasting the empirical growth curve for each subgroup with the equipercentile growth curve.

Also included in the second volume is a regression analysis of Fall and Spring MAT scores with (1) age, (2) sex, (3) minority status, (4) teacher responsiveness, and (5) teacher implementation.

Data Utilized

The data on which the PIP field test evaluation was based were collected from the 21 projects through the use of semistructured interviews, observations of the resources used, student achievement tests*, student attitude questionnaires, project instructor questionnaires and project records (Stearns, p. 23).

Information gathered during the implementation of the PIPs included:

- Hiring procedures and qualifications of project staff,
- Student selection and scheduling,
- Ordering of materials and equipment,
- Furniture and physical arrangements of the classroom/laboratories,
- Orientation and community public relations,
- Preservice and inservice training, and
- Staff roles and relationships.

(Stearns, p. 23)

Data Quality

The recommended methods of MAT administration were followed during both testings, and there was very little missing data. However, the authors question whether the MAT is an appropriate criterion for PIP projects that emphasize individualization.

*The MAT was administered to some 3,500 students in grades 1 through 8 across the 19 projects in the 17 sites in the Fall of 1975 and the Spring of 1976.

Findings

Funding

No important findings were presented.

Participant Characteristics

No important findings were presented.

Project Characteristics

No important findings were presented.

Program Impact

No important findings were presented.

Program Management

No important findings were presented.

Effective Classroom Techniques

Three findings emerged from the resource/cost study of the tryout projects. First, it was clear immediately that project expenditures were determined exclusively by the size of the Title III PIP project grants (i.e., expenditures expanded to fill the amounts made available). Because estimates of required budget amounts had not been available to USOE, most of the project grants were generous. Thus, resources used at the field test sites did not reflect what was necessary, but rather what could be encompassed within the amount of the grant. Second, because staff costs are always the greatest proportion of total costs in educational programs, per-student costs were shown to be greater in Programmed Tutorial Reading projects than in other projects, although costs for each student hour of instruction were less than in other PIP projects. Projects based on the R-3 PIP showed the lowest cost-per-student because R-3 served an entire grade and did not require adding many teachers. Third, RMC saw that it was necessary to develop a budget worksheet to enable districts that were considering PIP project adoption to determine the probable cost of the project in their schools. By re-examining essential components of each PIP program and by interviewing original and tryout sites' personnel about existing facilities, materials, equipment, and general

school district budgeting practices for project directors and instructional staff, RMC was able to create a budgeting worksheet to be included in the new Analysis and Selection Kit. (Stearns, p. 30)

The students at the PIP implementation sites were not explicitly described in either of the two volumes, although data on their sex, age, and race did exist.

An analysis of variance of project/PIP interactions on achievement test scores showed that there were significant differences among projects but not among PIPs. The projects, because of their attempt at PIP replication, can best be described in terms of the characteristics of the originating projects listed in the table below, which is from p. 11 of Norwood.

CHARACTERISTICS OF THE SIX EXEMPLARY PIP PROGRAMS

Program	Catch-Up Newport Beach, California	Conquest East St. Louis, Illinois	High Intensity Tutoring (HIT) Highland Park, Michigan
Subject areas	Reading and math	Reading	Reading and math
Students served	Students in grades K-6 who need help in reading or math; average student-teacher ratio, 5:1.	Students in grades 2-6 who are two years or less below grade level, and first grade repeaters; student-teacher ratio, 6:1.	Students in grades 6 or 7 one to five years below grade level tutored by students in grades 7 or 8, at least two years ahead of them on a one-to-one basis.
Nature of program	Students come from classrooms to the Catch-Up lab every morning. The lead teacher, the two other teachers, and the aide work independently with children for 30 minutes. Parent aides assist in instruction.	Students come from classrooms to reading rooms (grades 1-3) or clinics (grades 4-6) for 45 or 50 minutes each day. Heavy diagnostic testing determines areas that the lab clinicians will work on with each student.	One tutor works with one tutee using programmed curriculum for 20 minutes under supervision of a reading or math specialist and two aides. Rewards are earned by tutors as well as tutees.
Program	Intensive Reading Instructional Teams (IRIT) Hartford, Connecticut	Programed Tutorial Reading (PTR) Farmington, Utah	Project R-3 San Jose, California
Subject areas	Reading	Reading	Reading, math, and social studies
Students served	Students in grades 3 and 4 who need help in all areas of language arts; student-teacher ratio, 15:1.	First graders who need help learning to read are tutored on a one-to-one basis.	In the project's first year, all seventh graders in heterogeneous classes (gifted and slow learners); student-teacher ratio, 20:1.
Nature of program	Forty-five students from several schools are brought to one site each morning for 11 weeks for intensive instruction by three language arts specialists in three one-hour sessions.	Students are tutored apart from their regular classroom for 15 minutes a day by paraprofessional tutors; programmed kits designed for the basal reader used in the classroom are the only curriculum materials used.	Forty-five minute periods of reading, math, and social studies offer an integrated curriculum oriented to gaming/simulation, individualized instruction, and an intensive involvement study trip. A cadre staff (one teacher per subject) moves with students to grades 8 and 9.

The results presented on student growth during the second year of PIP implementation are generally negative: the average growth in MAT Reading was not (educationally) significantly greater than expected; the project generally maintained the growth predicted from the norm tables. The extent to which teachers did a good job of PIP implementation was not found to be significant.

Recommendations

Recommendations for Policy

Based on their special studies, the authors concluded that the PIP replication principle was not sound: there was little reason to expect that projects that correctly rendered the PIPs would dramatically increase MAT-type reading scores (Norwood, p. x).

The authors recommended that:

- USOE continue to use the sixteen PIPs that have already been prepared and supplement their diffusion network with advocates for each PIP. This could be achieved by (1) providing facilitators with considerable extra exposure to PIP projects and training by PIP diffusion contractors and/or (2) providing minimal supporting grants for previous PIP users to serve as advocates for individual PIPs.
- Both through grants and through technical assistance, USOE should continue to support packaging efforts by exemplary project developers. USOE should evaluate these efforts and/or conduct other studies to determine the most successful combinations of packaging and in-person assistance for various projects.
- USOE may want to discontinue "PIPPing" other projects until it is determined for which kinds of projects this model is most suitable.

(Stearns, pp. 65-66)

Recommendations for Future Research

No recommendations were made.